

ECONOMIC SURVEY



2022-23





ECONOMIC SURVEY OF KARNATAKA 2022-23

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MESSAGE



Economic Survey of Karnataka summarises the performance of government programmes and policies, achievements, challenges, and way forward for expediting the growth trajectory of State's Economy. This document is presented in the Legislature during the previous day of the budget session of every year with an objective of evaluating the state across agriculture, industry, and service sectors and to identify interventions for initiating appropriate action.

I am happy to state that the state has increased the GSDP from Rs.19.62 lakh crore in 2021-22 to Rs. 22.41 lakh crore in 2022-23 with growth of 14.2%. The percapita income has increased from Rs.2,65,623 to Rs. 3,01,673 during the same period. Further Karnataka (3.26%) has maintained the fiscal deficit within 4% of GSDP by containing revenue deficit, increasing tax and non-tax revenue and reducing revenue expenditure. State ranks first in Software/ Service exports and second in FDI inflows among States. Due to dynamic and innovative welfare initiatives of the state, the labour force participation rate from 51.2% in 2018-19 to 56.9% in 2020-21 and unemployment rate has come down from 3.9% to 2.7% during the same period.

In order to increase the GSDP growth across sectors, Economic Survey has highlighted measures like encouraging agri-tech startups, agro-processing, multiple cropping, micro irrigation expansion, private sub-sector specific 'plug and play' industrial clusters pushing MSME growth beyond Bengaluru, leveraging New Education Policy to inculcate skilling from secondary education onwards, Rural Tourism, Asset Monetisation, green technologies, waste to resource, Digital Technologies, infrastructure led growth through public private partnerships, decentralized governance to make **District as a fulcrum of development** by strengthening capacity building, infrastructure support and delegation of powers.

I seek the cooperation and support from policy makers, industry bodies, civil society organisations, academicians, and citizens to join hand for building Nava Karnataka for Nava Bharat. The insights from this document would go a long way in achieving USD 1 Trillion economy for Karnataka.

Basavaraj Bommai
Chief Minister of Karnataka

PREFACE



The Economic Survey is published every year by the Government of Karnataka with an objective to assess economy at present considering the past and provides road map for future. Karnataka has continued its progressive journey; it leads in several Sustainable Development and Human Development indicators. It is a leading state in technology and innovation with number one position in Innovation Index and State Start-ups' ranking, state's Ease of Doing Business ranking from 17th to the top category and has healthy financial position with revenue deficit less than 4% of GSDP. State ranks first in software exports and stands fourth in merchandise exports in India.

This year's economic survey set a vision to \$1 trillion GSDP (99.5 lakh crore) by 2032 from the existing \$ 0.27 trillion (22.41 lakh crore) in 2022-23. Nava Karnataka initiatives will augment to achieve this goal.

Agriculture sector initiatives like encouraging agri-tech startups, agro-processing, market development, multiple cropping, micro irrigation expansion, and encashment of carbon credits, will increase the growth from 14.8% to 18.8% and GDP from 3.09 lakh crore to 16.5 lakh crore by 2032.

Industry sector strategies includes using available industrial land besides private sub-sector specific 'plug and play' industrial clusters pushing MSME growth beyond Bengaluru, leveraging New Education Policy, production-linked-incentive scheme, industrial policy 2020-25, physical and digital infrastructure will increase the growth from 9.1% to 17.6% and GDP from 4.29 lakh crore to 21.4 lakh crore by 2032.

Karnataka's services sector is a source of strength and is poised to gain significantly from tourism, e-mobility, Digihealth, Agritech, Fintech, Edutech and Gig Economy, which will increase the growth from 13.4% to 16% and GDP from 13.14 lakh crore to 61.6 lakh crore by 2032.

Karnataka aims to strengthen its decentralized governance to make **District as a fulcrum of growth and development** by strengthening capacity building, infrastructure support and delegation of powers.

I sincerely acknowledge Departments for providing information and Dr. Richard Vincent D'Souza, Secretary, Planning Department, for his cooperation. I would like to thank Mr. N. Madhuram, Director, Directorate of Economics and Statistics, Mr. C. Kempaiah, Senior Consultant, Mr. K. Narasimha Phani, Joint Director, Mr. R. Manjunath, Assistant Director and Coordinators/Nodal officers/Supporting Staff, for their tireless work, to bring out 2022-23 Economic Survey Report within stipulated time. I appreciate the substantial contribution from Dr. A.V. Manjunatha, Director, Karnataka Evaluation Authority in completing this document.

I trust this document will provide insights to policy makers, industry bodies, academicians, students, and citizens about the performance of schemes and policies, and provides strategies for building a resilient economy of \$ 1 trillion GDP vision at the earliest by 2032.

Dr. Shalini Rajneesh I.A.S.
Additional Chief Secretary to Government
Planning, Programme Monitoring & Statistics Department

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EXECUTIVE SUMMARY



Karnataka GSDP in All India GDP is at 8.2%. Karnataka has the highest per-capita incomes Rs.3.01 lakh which is higher by 77% to All India. It leads in several Sustainable Development Goals with an overall score of 72 out of 100, ranking third among states. Human Development Index of the State showed improvement from 0.432 in 1999 to 0.644 in 2021. It is a leading state in technology and innovation with number one position in Innovation Index and State Start-ups' Ranking and has healthy financial position with revenue deficit less than 4% of GSDP. Bengaluru takes pride in its well-deserved status as the start-up capital of India as 40 out of 100 unicorns of India are housed in Bengaluru.

Karnataka has emerged as an attractive Investment Hub as a result of Industrial Policy 2020-25 and single window affidavit-based clearances, which also elevated state's Ease of Doing Business ranking from 17th to the top category. State ranks first in software exports and stands fourth in merchandise exports in India.

Karnataka is at the first position in linking 2.91 lakh RCH IDs with Aadhar. It is the first State to successfully auction expired mining leases. It is awarded with "Rashtriya Khanij Vikas Puraskar" third prize under category-I (Fe, Limestone, and Bauxite) for performance in Mineral Exploration from Ministry of Mines, Government of India. Govt. of India's Jal Shakti Ministry awarded Karnataka First prize in Sujalam 2.0 campaign and Swachhata Hi Seva-2022 campaign, and second rank in the ODF declaration Villages as aspiring at nation. Under the Swachha Swastha Sarvatra Program, 46 Community Health Centers and 22 Urban Primary Health Centers have won the "Swachha Ratna" award for maintaining high levels of hygiene and cleanliness in and around public health centres. World book of records, London has recognised Karnataka Digital Public Library for revolutionary initiatives and bringing drastic changes in public library system.

Karnataka is awarded "Best State for Horticulture 2022" for promoting horticultural development and production in the state during the 13th Agriculture Leadership Awards 2022. It is ranked fifth in marine fish production and seventh in inland fish production in the country during 2021-22. World Bank selected Karnataka to lead other states as a Light House partner for REWARD (Rejuvenating Watersheds for Agricultural Resilience through Innovative Development).

The state has set a vision to \$1 trillion GSDP (99.5 lakh crore) by 2032 from the existing \$ 0.27 trillion (22.41 lakh crore in 2022-23). Nava Karnataka initiatives will augment the GSDP to \$1 Trillion (99.5 Lakh Crore) by 2032. Its citizens must unite under outcome-based strategies to meet this goal. This calls for a new perspective in planning, goal setting, outcome-based monitoring and evaluation, strategic and human development-oriented initiatives to achieve sustainable development. The next decade presents a generational opportunity for our state, and all our citizens should work together to achieve this goal.

1. STATE INCOME AND PRICES

- The state has increased the GSDP from Rs.19.62 lakh crores in 2021-22 to Rs. 22.41 lakh crore in 2022-23 with a growth of 14.2%. The per capita income has increased from Rs.2,65,623 to Rs. 3,01,673 during the same period.

- ▶ Agriculture sector is expected to reach 5.5% growth as against 8.7% during 2021-22. Industry sector is anticipated to reach 5.1% showing the gradual recovery in industries growth as against to 10.3% during 2021-22, It needs further push in labour intensive industries. Services is expected to attain a level of 9.2% due to growth in IT related services (23% of the GSDP), which was 5.4% during the previous year. There is need to promote Financial Services (6.4%) and transport (2.8%) sectors. IT policy 2020-25 has a potential to promote IT beyond Bengaluru.
- ▶ Highest share of services in GSVA at 64 % followed by Industries at 21% and Agriculture at 15%.
- ▶ GDP grew by 7.9% during 2022-23 compared to 7% of India.
- ▶ It is expected that GSDP at constant (2011-12) prices will reach Rs.13,26,319 Crore with 7.9% growth rate. Growth during 2021-22 is 11.0%.
- ▶ Karnataka's Percapita Income of Rs.3,01,673 is higher by 77% to All India Percapita Income of Rs.1,70,620 during 2022-23
- ▶ During 2022-23, the share of Karnataka GSDP in All India GDP is at 8.2% as compared to 8.3 % in 2021-22.
- ▶ As per the District Domestic Product 2021-22, the districts of Bengaluru Urban, Dakshina Kannada, Belagavi, Tumukuru and Mysore are top five contributing districts and districts of Koppal, Chamarajanagar, Gadag, Yadgir and Kodagu are poor contributors to GSDP.
- ▶ Each district has a potential to grow in one or the other sectors which can be used by the district planning committees to support NITI Aayog's aspirational programme "District as a Fulcrum of Development" to strengthen and enhance GDP.
- ▶ Bengaluru Urban District's Percapita Income ranks first with Rs. 6,21,131 and last is Kalburgi with Rs.1,24,998.

2. FISCAL DEVELOPMENT AND STATE FINANCES

- ▶ Karnataka (3.26%) has maintained the fiscal deficit within 4% of GSDP by containing revenue deficit, increasing tax and non-tax revenue, and reducing revenue expenditure.
- ▶ Total receipts have increased from Rs. 2,59,309 crore in 2021-22 (RE) to Rs.2,65,374 crore in 2022-23 (BE).
- ▶ Revenue receipts have increased from Rs.1,89,579 crore in 2021-22(RE) to Rs.1,89,888 crore in 2022-23(BE).
- ▶ Capital receipts is expected to increase from Rs.69,730 crore in 2021-22 (RE) to Rs.75,487 crore in 2022-23(BE),
- ▶ Development Expenditure increased from Rs.1,63,825 crore in 2021-22(RE) to Rs.1,73,309 crore in 2022-23(BE). Share of developmental expenditure in total

expenditure has marginally increased from 65.21% to 65.47% for the same reference period.

- ▶ Total expenditure has increased from Rs.2,53,165 crore in 2021-22(RE) to Rs.2,65,720 crore in 2022-23(BE).
- ▶ Non-tax revenue has increased from Rs.9,000 crore in 2021-22(RE) to Rs.10,941 crore in 2022-23(BE).
- ▶ Per Capita Development Expenditure has increased from Rs.23,172 in 2021-22(RE) to Rs.24,171 in 2022-23(BE).
- ▶ Capital disbursement as % of GSDP has increased from 2.29% in 2021-22(RE) to 2.31 % in 2022-23(BE).
- ▶ Improving efficiency of public expenditures, ensuring flow of resources for SDGs, rationalization of various schemes and subsidies and ways to improve revenue sources crucial for financial progress of the State.

3. INVESTMENT AND EXPORTS

- ▶ State attracted \$39.36 billion FDI equity inflow over the period October 2019 to September 2022, which is 23% of all India.
- ▶ 393 Investment projects worth Rs. 2.37 lakh Crore has been approved with the generation of employment to the tune of 1.95 lakh during April to December 2022.
- ▶ State Government launched several start-up-focused funds that have a corpus of \$ 47.3 million.
- ▶ Karnataka is home to over 5500+ IT/ITES companies, ~750 MNCs contributing to over \$ 58 billion of exports, giving direct employment to over 12 lakh professionals and creating over 31 lakh indirect jobs. The industry contributes to over 25% of the State's GDP. The share of software exports is nearly 40% of the country's exports of \$155 billion.
- ▶ Karnataka's Bio Economy recorded 15% Year over Year (YoY) growth in 2022 valued at \$18.9 billion.
- ▶ 30% of the overall GDP is driven by the digital economy. This initiative of the Beyond Bengaluru mission of KDEM, will focus on hosting 5,000 IT companies and start-ups by 2026 in the Mysuru, Hubballi and Mangaluru clusters and creating Employment opportunities for 10 Lakh (direct and indirect) by 2026.
- ▶ Karnataka State with Rs. 41,678 Crore stood second position on FDI inflows among 26 Indian States from April to September 2022
- ▶ Karnataka's exports amounted to about Rs. 9,51,794 crore in 2021-22 which constituted about 18.9% of the Country's exports. The share of Merchandise exports in the National exports constitutes around 6.13% and Software/ Service exports around 41 % for the year 2021-22.
- ▶ State's exports in Agriculture Commodity amounted to about \$1,300 million in 2019-20 and \$1,582 million in 2020-21 with a significant increase of 21.7%.

- ▶ 72 companies have been registered under KESDM 2013 Policy received incentives of Rs. 14.57 crore.
- ▶ K-Tech Innovation Hubs housed 101 teams across 4 centres and 50 seats have been occupied by women.
- ▶ 40 District Innovation Hubs, 60 Startups, 35 Patents, 302 Prototypes, 400+ events have been achieved under New Age Incubation Network (NAIN)
- ▶ Karnataka's policies and programmes for attraction of private Indian and Foreign investments are based on complementarity between (a) Public (Union, State and Local Government) investments and private investments and (b) total (public and private) investments and exports. Karnataka's performance in attracting private and foreign investments and increasing exports in both traditional and modern sectors are contributory to attainment of higher economic growth (or GSDP) and productive employment generation. This approach leads to a Karnataka model of investment and export.

4. RURAL DEVELOPMENT

- ▶ During the current year, an amount of Rs.1,715 crore has been spent till the end of November 2022 for the construction of 93,674 houses and 1099 house sites have been distributed under various housing schemes in rural area.
- ▶ During 2022-23 under 15th Finance Commission Grants, Rs.1,653 crores, Rs.71 crores and Rs.36 crores have been released up to end of November 2022, to the GP, TP and ZPs, respectively which has been completely utilized.
- ▶ For 2022-23, 12.33 lakh FHTCs are provided by incurring an expenditure of Rs. 2,204 crore upto the end of November 2022 under Jal Jeevan Mission. There are about 2,20,000 rural public drinking water sources established in the State.
- ▶ During 2022-23 under SBM(R), Rs. 62 crore has been spent to build 9871 Individual Household Latrines and 87 Community Sanitary Complexes up to end of November 2022.
- ▶ During the current year, 12,180 litres of bio diesel has been produced by incurring an expenditure of Rs.214 lakhs up to the end of November 2022.
- ▶ During the current year under PMGSY, NGNRY and MMGRAY, 5,989 kms of road length has been maintained by incurring an expenditure of Rs. 94 crore up to November 2022.
- ▶ During the current year 22,332 persons have been imparted skill training and 5,967 persons have been placed up to end of November 2022 under NRLM through KSRLPS by incurring an expenditure of Rs.392 crore.
- ▶ The powers, functions and provisions given to panchayats should be optimally utilized for planning, programme implementation, budgeting, preparation, monitoring and evaluation of decentralized plans and resource mobilization.
- ▶ Convergence of MGNREGA with schemes of agriculture, horticulture, forestry, and watershed departments for more employment generation to close the demand-supply gap.

5. URBAN DEVELOPMENT

- ▶ Rs.925 crore has been provided towards underground drainage facilities to 110 villages merged to BBMP. The cumulative physical progress achieved is 1,512 Kms with Rs.788 crore.
- ▶ During 2022-23, 4 UGD works, and 8 Water Supply works were taken up in Davanagere, Harihara, Ranebennur and Byadgi towns under Tranche-1 and 6 UGD and 7 Water Supply works in Mangaluru, Puttur, Udipi and Kundapur towns were taken up under Tranche-2 by KIUWMIP. Out of Rs 1,188 crore and Rs 1000 crores of project cost, Rs. 987 crore and Rs.620 crore, respectively up to the end of November 2022 under Tranche-1 & 2.
- ▶ 287 cities/towns having less than one lakh population have been taken up with Rs.9,230 (Central Assistance of Rs.4615 crore) under AMRUT 2.0.
- ▶ 148.17 kms will be constructed in four Sub-Urban Rail Corridors under Bengaluru Sub-Urban Rail Project at Rs. 15,767 crore has been taken up by K-RIDE.
- ▶ Government has approved to take up 45 Kms of 'Outer Ring Road- West metro' in the following routes; Kempapura to J.P. Nagar 4th Phase (32.15 Kms) Hosahalli on Magadi Road to Kadabagere (12.50 Kms) under Bangalore Metro Rail Project Phase-3.
- ▶ E-Waste Management can produce an estimated turnover of 2900 crores p.a. in Karnataka because of IT hub of India.
- ▶ High use of Digital technologies should be made available as well by way infrastructure development using PPP. Further effective coordination between BWSSB and BBMP is required to control floods.
- ▶ Implementation of strong regulatory framework to stop encroachments of government lands and get back the encroached lands swiftly as well.
- ▶ Special emphasis to be given for lift irrigation projects for supplying treated water from Bengaluru to neighbouring dry districts.
- ▶ Providing slums with entitlements through development of vertical slums under PPP and remaining land to be brought under asset monetization for generating revenues.
- ▶ City Comprehensive Mobility plans (CMP) to be completed for all cities and ULBs, prioritizing areas witnessing heavy traffic congestion. Establishing townships on PPP for reducing congestion
- ▶ Resource mobilization measures are waste to resource, timely tax collection, increasing value of land considering the market value, clean and green initiatives, green bonds, private partnerships.
- ▶ Setting up satellite towns in Kalyana Karnataka Region utilizing central fund.

6. AGRICULTURE AND FOOD MANAGEMENT

- ▶ During 2022-23 it is estimated that 81.56 lakh ha. of area under food crops will be cultivated with the production of 134.89 lakh MTs.
- ▶ Till November 2022-23, 39.89 lakh farmers benefited under Krishi Yantra Dhare scheme (farm mechanisation).
- ▶ 1,30,244 soil samples have been collected, 59,149 soil samples have been analyzed as on November 2022 under soil health card portal.
- ▶ Under Pradhana Mantri Fasal Bima Yojane during 2021-22, Rs.833 crore of claims has been settled to 8,07,281 farmers and during Kharif 2022-23, Rs.257 crore of claims has been settled to 5,02,080 farmers.
- ▶ Under Organic Farming Adoption and Certification, 26,611 hectares area of 16,514 farmers have been certified.
- ▶ Out of 129.70 lakh hectares of area available for watershed interventions, 72.00 lakh hectares has been developed with watershed interventions and 57.7 lakh hectares will be covered.
- ▶ Under the PM Kisan-Karnataka Scheme the State Government has transferred the financial assistance of Rs. 4,821 crore to 50.35 lakh farmers since inception. During 2022-23 State has transferred the financial assistance of Rs. 957 crore to 47.83 lakh farmers.
- ▶ 344 Amrith Famers Producer Organizations have been created in Agriculture, Horticulture, Sericulture, Animal Husbandry and Textile & Handloom sectors.
- ▶ 156 markets are brought under Unified Market Platform with a transaction of 9.12 crore MTs of agricultural commodities worth Rs. 2.63 lakh crore.
- ▶ 25,731 MT of Greengram have been procured at an estimated cost of Rs.200 crore, benefiting 22,181 farmers during 2022-23 under Minimum Floor Price scheme.
- ▶ 890 works costing Rs.319.61 crore have been completed under RIDF-24 for strengthening market infrastructure.
- ▶ 2,500 beneficiaries have received scientific beekeeping training and a total of 7,950 honey boxes have been distributed.
- ▶ 2,400 activities have been undertaken covering 1150 beneficiaries under Post Harvest Management, 665 number of Farm machinery are distributed to 500 farmers, protected cultivation in 960 hectares of area covering 720 beneficiaries and 484 farm ponds to harvest rainwater.
- ▶ 50,335 farmers covering 28,000 hectare area is brought under Horticulture, 573 hectares crop area is rejuvenated and 60 lakh quality seedlings and grafts of various horticultural crops have been distributed.
- ▶ 1.23 lakhs Tissue Culture plants, 26 tonnes of bio-fertilizers and 9245 liters of Liquid bio-fertilizers have been produced up to the end of November-2022.

- ▶ Karnataka has 3.03 crores of livestock and 5.95 crores of poultry population and its share in all India was 5.41% and 6.98%, respectively.
- ▶ 64,49,701 of cattle, buffaloes, sheep and goat were vaccinated against Haemorrhagic Septicemia upto November 2022 during 2022-23.
- ▶ Artificial Insemination facility has been provided through 4234 institutions. Sperm stations are located at Bengaluru and Dharwad. During 2021-22, 8.17 lakhs calves were born, out of 34.37 lakhs cattles were inseminated. During 2022-23 (up to November 2022), 5.27 lakhs calves are born, out of 22.27 lakhs cattles are inseminated.
- ▶ During the year 2021-22, Piggery rearing Amruth FPO's have been established in five districts (Mysuru, Mandya, Hassan, Tumkuru & Dharwad). During 2022-23 (upto November 2022) 1935 piglets are distributed to pig rearing farmers and 887 farmers are trained for promoting piggery.
- ▶ 15,210 primary dairy co-operative societies are functioning under 16 district milk unions with an enrolment of 26 lakh farmers.
- ▶ 100 Goshalas are being constructed to preserve the weak, sick, orphan, animals, which farmers cannot rear, of this 20 have been started.
- ▶ Punya Koti Dattu Yojana has been started first in the country to conserve cattle in government and private goshalas. 208 cattle have been adopted on this online portal. A total donation of Rs. 22 lakhs collected for the maintenance of several cattle.
- ▶ 99.35 lakh cattle have been vaccinated as a precautionary measure against Lumpy skin disease and Rs 37 crore has been released to compensate the dead calves, cattle and bulls.
- ▶ 275 well-equipped mobile veterinary vehicles for 290 lakh cattle (one mobile veterinary vehicle for every one lakh cattle population) under Pashu Sanjeevini Mobile Veterinary Surgery Vehicle have been started.
- ▶ 3.31 lakh under marine and 6.53 lakh under inland fishermen are involved in various fisheries activities.
- ▶ 8030 motorised boats are being supplied with 300 litre kerosene per month per boat at PDS rate. During 2022-23, an amount of Rs.130 lakh has been incurred.
- ▶ Rs. 23 lakh insurance has been provided to 78,983 registered fishermen under Centrally Sponsored Group Accident Insurance Scheme
- ▶ 7 districts which constitute more than 50% of the Cultivable Waste, can be used for cultivation by incentivizing Rs.40,000 per hectare (seed minikit/seedlings). Agro-forestry & horticulture crops may be encouraged in these districts.
- ▶ 79 lakh hectares of area single cropped area has to be brought under multi cropping through integrated farming system.

- ▶ 65.22 lakh hectares of flood irrigation area has to be brought under Irrigation in phases based on the dominant crop grown which is prone to higher yield upon irrigation.
- ▶ Setting up of Seed to Sales Single Window Centres (Farmers Welfare Centres) through convergence of departments and activities at taluk level.
- ▶ Create end to end (e2e) value chains for export-oriented Food Parks and Infrastructure and Cold chain infrastructure (Chilli in Byadagi, Rose onion in Chikballapur, Coffee in Chikkamangaluru, Hassan and Kodagu).
- ▶ Setup state of the art Post Harvest Management centers within 25 kms of production (Incentivize private investment following ODOP schemes) to improve post-harvest processing from 1-2% and reduce spillage from current levels of 25-30%, improve the proportion of horticulture product meeting Grade-A criteria from current levels of 30-45% and fetch better prices for farmers.
- ▶ One veterinary institute for every 5000 livestock units
- ▶ Conservation and development of Indigenous Breeds of cattle like Krishna Valley, Amruth mahal, Khillar, Deoni and breeds of Sheep and Goat.
- ▶ Expand production linked incentive schemes worth 25 billion dollars to promote manufacturing and exports using hub and spoke model.
- ▶ Strengthening Inland fish marketing infrastructure and cold chain.
- ▶ 10.9 lakh Antyodaya Anna, 116 lakh Priority Ration Cards and 25 lakh Non-Priority Ration cards issued in the State under National Food Security Act 2013 and are linked with Aadhar. 87.65% of ration cards and 94.8% of the members have completed the e-KYC.
- ▶ 20,222 fair price shops are distributing ration through bioauthentication.
- ▶ 32,677 ineligible AAY cards have been cancelled and converted to NPHH.
- ▶ Rs.3.82 crore fine has been levied for the ineligible ration card holders.
- ▶ Common Service Centres, Retail sale of 5kg LPG of cylinders, sale of non-PDS commodities is undertaken to improve income to fair price shop owners.
- ▶ Introducing locally grown high nutrition food into PDS
- ▶ Expanding distribution biofortified rice under PDS for increasing nutritional levels

7. NATURAL RESOURCE MANAGEMENT AND ENVIRONMENT

- ▶ 47,077 hectares has been afforested by planting 283 lakh seedlings and 315 lakh seedlings were distributed to farmers and general public for planting in private lands in 2022-23 upto the end of November-2022.
- ▶ Realised revenue of Rs.18,648.91 lakh during 2022-23 (upto November-2022) from marketing of forest produce such as timber, firewood and Charcoal, Bamboos, receipts from sandal wood, Minor Forest Produce and other sources of revenue.

- ▶ Bio-diversity Management Committees have been constituted in 6012 GPs and all GPs have been written People's Biodiversity Registers.
- ▶ An amount of Rs.11,642 crore have been spent to create an anticipated irrigation potential of 43 lakh hectare in 2022-23 (up to November 2022).
- ▶ Gross Irrigated Area as percentage of total cultivated area has been increased from 16% in 1980-81 to 41% in 2020-21.
- ▶ It is proposed to provide irrigation facilities to 5.94 lakh hectare of land in drought prone areas of Vijayapura, Bagalkot, Kalaburagi, Raichur, Koppal, Gadag and Yadgir districts by taking up 9 irrigation schemes under UKP – III.
- ▶ KNNL has taken up 45 tank filling proposals in 13 districts covering 2034 tanks with an estimated cost of Rs.9,362 crore.
- ▶ 42 modernization works at a cost of Rs.5,063.40 crores has been taken up by CNNL to improve the efficiency of canals.
- ▶ Department of Mines and Geology has successfully auctioned 34 mineral blocks including 17 'C' category iron ore leases, 7 expired iron ore mines, 2 Gold blocks and 8 limestone blocks. During 2022-23 has realized revenues of Rs.3,559 crore (up to November 2022).
- ▶ During the year 2022-23, granted 148 non-specified and 22 specified minor mineral quarry leases.
- ▶ 179 auctioned sand blocks over an extent of 2340 acres and 125 patta land sand blocks over an extent of 996 acres are working under Implementation of New Sand Policy-2020. 65 sand blocks are in operational and disposed 24,082 MT of sand through GP with collection of Rs.22 lakh.
- ▶ KSNDMC has established a network of GPRS enabled and solar-powered Telemetric Rain Gauges at all the 6,500 Gram-panchayaths (25 sq. km each) and 923 Telemetric Weather Stations at all the 747 Hoblis (sub- Tehsil : 200 sq. km each) and 176 Micro-Watersheds in the state for forecasting weather related information.
- ▶ Promoting afforestation by agriculture, horticulture, rural and urban development, and rural developments schemes
- ▶ Simplification and relaxation of existing regulations to promote agro-forestry species, like Silver Oak, Melia dubia, Acacia auriculiformis and other species, like Sandal, Neem, Teak and Red sanders etc.
- ▶ Need to evolve policy for Circular Economy (CE) for SWM to replace the linear economy of 'take, make, use and dispose' and reduce environmental burden.
- ▶ The river rejuvenation programme of 17 polluted river stretches in Karnataka is aimed at improving river water quality so that benefit of life support system of sacred rivers is continuously available for future.

8. INDUSTRY

- ▶ State's production of silk yarn is 7,759 MT and import is 762 MT till August 2022.
- ▶ Contribution of registered factories of Karnataka stood at 6.18% of total fixed capital, 6.20% of total output and 7.16% of GVA in 2019-20 as per ASI results.
- ▶ Subsidy of Rs.96 crore for 562 MSME industrial units and Rs.44 crore for 17,128 artisans of Khadi, Coir and Handicrafts sectors are provided.
- ▶ 695 large and mega industries are working with Rs. 2.36 lakh crore capital investment by providing employment opportunities to 4.95 lakh people.
- ▶ 10 clusters have been assisted with Rs.4 crore grants under the Cluster Development Programme (MSE-CDP).
- ▶ Under FMCG cluster programme, more employment opportunity will be created for youths of Kittur Karnataka and Kalyan Karnataka regions.
- ▶ Food Karnataka Ltd., has been nominated as the nodal agency for the implementation of the 5 Food Parks at Malur, Bagalkote, Hiriyuru, Jewargi and Vijayapura in the State
- ▶ 15,000 acres of available industrial land (across Vijayapura, Ballari, Dharwad, Shivamogga, Hassan, Ramanagara, Tumakuru, Chikkaballapur districts) would be optimally utilised besides private sub-sector specific 'plug and play' industrial clusters pushing MSME growth Beyond Bengaluru and generating employment of 45-50 Lakhs.
- ▶ Operationalize container handling facility at Mangalore port to divert in bound and out bound cargo from Chennai, Tuticorin and Kochi ports.

9. SKILL, ENTREPRENEURSHIP, EMPLOYMENT AND LABOUR WELFARE

- ▶ Efforts of the government schemes and policies has led to increase in LFPR (15 & above) from 51.2% in 2018-19 to 56.9% in 2020-21 and decrease in unemployment rate from 3.9 % in 2018-19 to 2.7% in 2020-21.
- ▶ 73.74 lakh Unorganised workers have been registered across the state under e-shram portal.
- ▶ Under PM Street Vendor's Atma Nirbhar Nidhi, Rs. 244 crores has disbursed to 1,99,049 street vendors
- ▶ Building and other construction Workers Welfare Board has provided financial assistance of Rs.1,719 crore to 26.25 lakhs eligible workers
- ▶ Accident benefit of Rs. 5.25 crore has been disbursed in 111 cases and an educational assistance of Rs.23.70 lakh has been sanctioned to 237 beneficiary students under Karnataka State Private Commercial Transport Workers' Accident Benefit Scheme.
- ▶ In Karnataka full medical care has been extended to about 45.76 lakh insured persons and 180 lakhs members of their families through a network 10 ESI Hospitals. 116 full time ESI Dispensaries and 2 Diagnostic Centres are also operating for the welfare of labours.

- ▶ 2.04 lakh applications were cleared under Karnataka Karmika Adalat 2.0 campaign
- ▶ Establishing skill labs through public private partnership in schools and colleges.
- ▶ Strengthening skilling infrastructure at ITIs and Polytechnics, through partnerships with industry leaders such as Siemens, Tata Technologies, to train the workforce on emerging technologies.
- ▶ “Centre of Skill Excellences” to be built to serve at levels of the skill competency, Competency in collaboration with Industries.
- ▶ Instituting Human Resource Development Fund (HRDF) will be explored where certain level of contribution comes from industries based on the turnover and manpower strength for Reskilling and Upskilling of their employees.

10. ECONOMIC INFRASTRUCTURE

- ▶ Niranthara Jyothi Yojane is a major project that aims to segregate the rural area loads into agricultural and non-agricultural loads to provide 24 hours of quality power supply to rural areas and assured hours of power supply to the irrigation pump sets.
- ▶ Under SHDP-IV, approval has been accorded for implementation of 7800 km road development in 3 stages at Rs. 10,000 crores.
- ▶ Rs 1 crore for employees of KSRTC and Rs. 50 lakhs for NWKRTC and KKRTC under Accident insurance scheme is implemented.
- ▶ “Vidyanidhi” scheme has implemented for promotion of education and special scheme for health facility for post-matriculation of children of yellow board taxi drivers and auto rickshaw drivers.
- ▶ The Bangalore Signature Business Park project is being developed on 407 acres of land adjacent to the Kempegowda International Airport and development of Trunk Infrastructure at a total cost of Rs.168 crore.
- ▶ Proposal of 81 projects amounting to Rs.7,635 crore is submitted to Sagaramala Cell of Ministry of Ports, Shipping and Waterways.
- ▶ NABARD’s credit potential of Rs.3. 59 lakh crore (sector wise: Agriculture-49.90%, Micro, Small and Medium Enterprises-37.59%, Export Credit-1.61%, Education-1.72%, Housing-7.97%, Renewable Energy-0.36%, Social Infrastructure involving Bank Credit-0.85%) has been projected for FY 2023-24 for the priority sector in the State.
- ▶ Under the Agri Infra Fund scheme of Atma Nirbhar Scheme of Central Government Rs. 313 crore of loan has been sanctioned at 4% interest rate to 895 PACS through NABARD to create post-harvest facility to farmers and Rs.158 crore of loan has been disbursed to 706 PACS by DCC banks.
- ▶ Under central sponsored scheme it has been intended to computerize 6040 PACS with the cost of Rs.236 crore at Rs.3.91 lakhs per PACS to provide better services to farmers and rural customers.

- ▶ Need for application of IT solutions such as SCADA to augment collection and collation of data and reduce manual interventions to ensure maximum uninterrupted power supply.
- ▶ Encourage non-motorable transport such as metro transport, bicycle, also walking for short distances.
- ▶ Promoting e-mobility through incentives, creation of infrastructure and R&D (retrofitting petrol and diesel vehicles) through public-private partnerships
- ▶ The credit offered to farmers from cooperative institutions is limited due to their insufficient financial resources. Cooperatives can use ceding paripassu charges in favour of banks which can supplement the financial needs of the farmers.

11. HUMAN DEVELOPMENT

- ▶ Bangalore Urban stands first with HDI value of 0.738 and Yadgir, Kalaburagi and Raichur are the districts in the last 3 positions with HDI value 0.538, 0.539 and 0.562 respectively (UNDP 2019).
- ▶ Progress in the state's health indicators over the past few years has been encouraging. The death rate is already below the target level and the birth rate is also decreasing rapidly. Maternal mortality rate (per 1,00,000 live births) which was 97 in 2015 has been decreased to 69 in 2020 and the infant mortality rate (per 1000 live births) was 28 in 2015 and 19 in 2020. The state total fertility rate declined to 1.7 in 2020 (as per SRS data). The percentage of Institutional deliveries is 99.9.
- ▶ NTEP Karnataka is aiming at Universal Access and Zero TB deaths as a part of End TB Strategy. Death rates has decreased from 8% in 2009 to 6% in 2021 despite high HIV – TB burden. The success rates of TB treatment have improved to 82%.
- ▶ Malaria cases in the state are decreasing significantly and the state is in category-I of malaria control criteria.
- ▶ Under National Leprosy Control Program the leprosy eradication rate in 1986 was 40/10000, it has come down to 0.31/10000 by the end of November 2022.
- ▶ In the State during 2022-23 (Upto Nov) 1.46 Lakh children were detected with Refractive Error and 3.44 lakh Cataract Surgeries conducted.
- ▶ Under Ayushman Bharath Arogya Karnataka 3,419 hospitals have been empanelled of which 2,940 are Government and 479 are private hospitals. 1.22 crores AB-ARK card are issued, and 9.23 lakh beneficiaries availed the benefit of Rs. 746.69 crores.
- ▶ As on Nov 2022 number of upgraded Health and Wellness centres are 8,637 of which 6,106 are Rural Sub-centres, 2,166 are Rural PHCs and 365 Urban Health Centres.
- ▶ Manochaitanya Program (Tuesday Clinic) program is a unique initiative of the State. Psychiatrists from District Mental Health Program/ District Hospital/ Medical College/ Private Psychiatrists visit taluk hospitals on selected Tuesdays to identify and treat mentally ill patients. This program has been implemented in all taluks of the state.

- ▶ e-hospital program is operational in 123 Taluk Hospitals, 27 Community Health Centres, 217 Primary Health Centers and 5 MCH Hospitals.
- ▶ Covid 19 Vaccination – Around 6000 Vaccination Centers are functioning daily in the state. So far, a total of 12.04 crore doses have been administered to the eligible, achieving 100% progress.
- ▶ Total enrolment in the State in 1 to 10 standards have marginally increased from 103.13 lakh in 2018-19 to 106.23 lakh in 2022-23.
- ▶ During the 2022-23, GER and NER for lower primary are 103.73 and 99.16 respectively and at higher primary, GER and NER are 102.26 and, 87.55 respectively.
- ▶ During 2022-23 Drop-out Rates in Lower Primary and Higher Primary are 0.09% and 0.49%, respectively. Samagra Shikshana-Karnataka (SSK) had identified 4,245 (6 to 14 years) drop-out children in State.
- ▶ Higher Primary Schools are being upgraded to include class 8, wherever there are no High Schools within 3 kms. A total of 7817 HPS has been upgraded.
- ▶ About 98.86% of elementary schools possess own buildings and remaining are operating in rent free or rented building.
- ▶ Teacher-Pupil ratio is satisfactory in Government schools. The average PTR being 1:25 at the elementary stage. The State has adopted a policy to rationalize teacher deployment to correct such imbalances.
- ▶ “e-Sarvajanika Granthalaya” app is provided for public to view the digital library services through mobile.
- ▶ E-Contents are localized, translated, and uploading to DIKSHA portal with the help of trained teachers. Till today 29,581 e-resources are provided to use.
- ▶ Reservation in education and employment for Schedule Caste has been increased from 15% to 17% to enable them to get more opportunities. Similarly, it has been increased from 3% to 7% to Scheduled Tribes.
- ▶ 3,58,425 Unique Disability Identity Cards for the disabled (UDID) were issued as against 6,84,542
- ▶ 5,090 Braille books are printed at Government Braille Printing Press, Mysore and supplied to visual impairment students.

12. GOOD GOVERNANCE PRACTICES IN KARNATAKA

- ▶ Karnataka's Good Governance Index score is 5.11 in 2020-21 as compared to 5.10 in 2019-20 with an improvement shown in Agriculture & Allied Sector, Public Infrastructure & Utilities and Social Welfare & Development.
- ▶ Towards the good governance of providing transparency, efficiency and integrated planning in policy formulation and decision making, Karnataka Government has taken up several dynamic and innovative initiatives like Karnataka State Wide Area Network , e-Procurement, Karnataka State Data Centre, Security Operation Centre for SDC, Unique Identification Numbers, Karnataka Resident Data Hub,

Digilocker, e-janma, e-Office, Kannada Computing, State Scholarship Portal, Direct Benefit Transfer, Kutumba, Karnataka Open Data Initiative, MyGov, RTI Online, Crop Survey, Karnataka State Web Portal, KAVERI Property Registration using Blockchain, Suvidha, National Academic Depository, Mahiti Kanaja, FRUITS, Integrated Public Grievances Redressal System, E-Sahamathi, Sakala, Bhoomi and K-GIS.

- ▶ During 2022-23, to KKRDB Rs. 1,500 Crore each is provided for mico plan and mega projects, totalling to Rs. 3,000 Crore.
- ▶ Karnataka State Policy and Planning Board has been recently reconstituted on the lines of NITI Aayog as State Institute for Transformation of Karnataka (SITK) to focus on Decentralized Planning, Strategy formulation and Outcome based Evaluation for effective implementation of outcome-based budgeting.
- ▶ On the lines of Development Monitoring and Evaluation Office (DMEO) of NITI Aayog, Karnataka Evaluation Authority (KEA) is renamed as Karnataka Monitoring and Evaluation Authority (KMEA) to promote monitoring and evaluation ecosystem in the state and take up all evaluations of schemes with a budget of more than 100 crores once in plan period.
- ▶ Recommendations from studies of Karnataka Evaluation Authority has provided useful insights to the departments for mid-course policy corrections and improving the efficacy of the schemes apart from policy formulation.
- ▶ Visualize and showcase the success of government achievements through success stories to motivate other citizens to make use of government initiatives.
- ▶ Institutionalization of Digital Dialogue Meetings at the grassroots level in supporting decentralized planning and program implementation
- ▶ There is a need for digital infrastructure for the successful implementation of government schemes.

WAY FORWARD FOR ACHIEVING \$1 TRILLION GDP VISION FOR KARNATAKA

Government Schemes will be aligned with the NABARD's priority sector credit target of Rs. 3.59 lakh crores to the tune of 1.79 lakh crore in agriculture and allied activities, Rs. 1.35 Lakh crore in MSMEs and Rs.0.45 lakh crore in export, education, housing, renewable energy, and social infrastructure.

- ▶ **Agriculture:** Encouraging agri-tech startups, agro-processing, multiple cropping, micro irrigation expansion, encashment of carbon credits, silvi horticulture, etc., will increase the growth of Agriculture sector from 14.8% to 18.8%. Monetizing 4 lakh hectares of cultivable wasteland and 47 lakh MTs of marketable surplus of fruits and vegetables will be ensured by setting up end to end value chain connectivity to reduce losses and increase exports. Agriculture GDP is forecasted to grow from 3.09 lakh crores to 16.5 lakh crores by 2032.
- ▶ **Industry:** 15,000 acres of available industrial land (across Vijayapura, Ballari, Dharwad, Shivamogga, Hassan, Ramanagara, Tumakuru, Chikkaballapur districts) would be optimally utilised besides private sub-sector specific 'plug and play' industrial clusters pushing MSME growth Beyond Bengaluru and generating

employment of 45-50 Lakhs. New Education Policy will be leveraged to inculcate skilling from secondary education onwards to produce industry demand ready workforce besides incentivizing R&D incubation by setting up venture funds and NAIN (New Age Innovation Network) centres to encourage students, research scholars and alumni to boost the GDP. All these initiatives will increase the growth in Industry from 9.1% to 17.6% and GDP is forecasted to grow from 4.29 lakh crores to 21.4 lakh crores by 2032.

- ▶ **Services:** The vast tourism potential of Karnataka such as Coastal, Wildlife, Heritage, Adventure, Medical / Wellness, Religious / Spiritual, Eco Tourism, Agri-Tourism and Rural Tourism will be developed by providing relaxation to the 'land use change policy'. Growth led through e-mobility, Digihealth, Agritech, Fintech, Edutech and Gig Economy will be leveraged for the growth of service sector. All these initiatives will increase the growth in service sector from 13.4% to 16% and GDP is forecasted to grow from 13.14 lakh crores to 61.6 lakh crores by 2032.

GOVERNANCE REFORMS

- ▶ Karnataka aims to strengthen its decentralized governance to make District as a fulcrum of growth and development by strengthening capacity building, infrastructure support and delegation of powers.

1.1 INTRODUCTION

Karnataka is a state of diverse cultures and languages and the economic and social scenario within the State, in many ways, mirrors the scenario prevalent in the country itself. Located in the southern part of India, along its northern borders lie the states of Maharashtra and Goa; Andhra Pradesh and Telangana to the east; Tamil Nadu and Kerala to the south, while the Arabian Sea forms the western boundary.

Karnataka has an area of 1,91,791 sq. kms. which constitutes 5.83 per cent of the total geographical area and population of 6,10,95,297 accounts for 5.05 per cent of country's population in 2011. Karnataka is, in terms of population, the ninth largest state among India's 28 major states and 8 union territories. The state is becoming steadily urbanised. In terms of urbanization, the state has witnessed an increase of 4.68 per cent in the proportion of urban population in the last decade. 61.33 per cent are rural residents and 38.67 per cent are urban residents. It has a larger proportion of its population living in urban areas, than the average for the country as a whole.

This chapter analyses Karnataka's economic growth in terms of changes in Aggregate and Per Capita State Income including stability of prices in the indices of wholesale as well as retail prices in the entire state. In addition, this chapter also provides an analysis of District Income Estimates along with related Inter-District Variations.

1.2 GROSS STATE DOMESTIC PRODUCT

Gross State Domestic Product (GSDP) is the most important indicator in measuring economic growth of the State. It gives an overall picture of the state of the economy. This would enable the policy makers, administrators and planners for proper formulation and appraisal of plans for balanced economic development. Analysis of this indicator at aggregate and disaggregated levels leads to the insights of patterns and sources of growth.

The State Domestic Product is defined as the "aggregate of the economic value of all goods and services produced within the geographical boundaries of the State, counted without duplication, for a specified period of time" by convention: a financial year.

1.3 GROSS STATE DOMESTIC PRODUCT - OVER-VIEW FOR 2022-23

Karnataka has released the GSDP Advance Estimates for the year 2022-23. In accordance to the estimates, the GSDP is estimated to be Rs.22,41,368 crore and is anticipated to grow at 14.2% at current prices. At constant (2011-12) prices, GSDP is Rs.13,26,319 crore with an expected growth of 7.9%.

1.4 COMPARISON OF GROSS STATE DOMESTIC PRODUCT AND GROSS DOMESTIC PRODUCT

In 2022-23, the GSDP of Karnataka is anticipated to grow at 7.9% whereas the GDP at national level is 7.0% at constant(2011-12) prices. At current prices, the GSDP is anticipated to reach Rs.22,41,368 crore with a growth of 14.2% and GDP is likely to attain a level of

Rs.2,73,07,751 crore with a growth rate of 15.4%. The share of Karnataka's GSDP in All India GDP is 8.2% during 2022-23.

The GSDP and GDP at current and constant (2011-12) prices from 2011-12 to 2022-23 are presented in **Table 1.1 & 1.2**. It can be clearly seen that except 2017-18 and 2022-23 Karnataka's growth rate at current prices has always been higher than all India growth rate. While at constant prices, State's growth rate is higher than all India except 2014-15 and 2018-19.

Table 1.1: Annual Growth of GSDP and GDP at Current Prices

Year	GSDP (Rs. crore)	Growth Rate of GSDP (%)	GDP (Rs. crore)	Growth Rate of GDP (%)	Difference in Growth Rates
2011-12	6,06,010	-	87,36,329	-	-
2012-13	6,95,413	14.8	99,44,013	13.8	1.0
2013-14	8,16,666	17.4	1,12,33,522	13	4.4
2014-15	9,13,923	11.9	1,24,67,959	11	0.9
2015-16	10,45,168	14.4	1,37,71,875	10.5	3.9
2016-17	12,07,608	15.5	1,53,91,668	11.8	3.7
2017-18	13,33,240	10.4	1,70,90,042	11	-0.6
2018-19	14,79,391	11	1,88,99,668	10.6	0.4
2019-20	16,11,134	8.9	2,00,74,855	6.2	2.7
2020-21	16,25,073	0.9	1,98,00,914	-1.4	2.3
2021-22	19,62,725	20.8	2,36,64,638	19.5	1.3
2022-23	22,41,368	14.2	2,73,07,751	15.4	-1.2

Source: 1. Directorate of Economics and Statistics, Government of Karnataka.

2. National Statistical Office, Government of India. * As per First Advance Estimates

Table 1.2: Annual Growth of GSDP and GDP at Constant (2011-12) Prices

Year	GSDP (Rs. crore)	Growth Rate of GSDP (%)	GDP (Rs. crore)	Growth Rate of GDP (%)	Difference in Growth Rates
2011-12	6,06,010	-	87,36,329	-	-
2012-13	6,43,033	6.1	92,13,017	5.5	0.6
2013-14	7,04,466	9.6	98,01,370	6.4	3.2
2014-15	7,48,429	6.2	1,05,27,674	7.4	-1.2
2015-16	8,31,330	11.1	1,13,69,494	8	3.1
2016-17	9,41,774	13.3	1,23,08,193	8.3	5.0
2017-18	10,19,708	8.3	1,31,44,583	6.8	1.5
2018-19	10,85,101	6.4	1,39,92,915	6.5	-0.1
2019-20	11,48,806	5.9	1,45,15,958	3.7	2.2

Year	GSDP (Rs. crore)	Growth Rate of GSDP (%)	GDP (Rs. crore)	Growth Rate of GDP (%)	Difference in Growth Rates
2020-21	11,08,212	-3.5	1,35,58,473	-6.6	3.1
2021-22	12,29,713	11	1,47,35,516	8.7	2.3
2022-23	13,26,319	7.9	1,57,60,363	7	0.9

Source: 1. Directorate of Economics and Statistics, Government of Karnataka.

2. National Statistical Office, Government of India. * As per First Advance Estimates

1.5 COMPARISON BETWEEN ADVANCE ESTIMATES OF 2022-23 AND FIRST REVISED ESTIMATES OF 2021-22

The Gross State Domestic Product of Karnataka at constant (2011-12) prices for the year 2022-23 is anticipated to grow by 7.9%. The GSVA growth rate of agriculture sector has been estimated to be 5.5% in 2022-23 as against the growth of 8.7% in 2021-22. The industry sector (comprising mining & quarrying, manufacturing, construction and electricity, gas & water supply) is expected to grow by 5.1% in 2022-23 against a growth of 10.3% during 2021-22. Service sector is expected to grow by 9.2% during 2022-23 compared to growth of 10.3% during 2021-22. Whereas, the First Advance Estimates of All India Gross Domestic Product (GDP) at constant (2011-12) prices for the year 2022-23 is expected to grow at 7.0%. The sectoral growth rate of Agriculture, Industry and Services at all India level is anticipated to grow at 3.5%, 4.1% and 9.1% respectively. The comparative table of sectoral growth rates of GSDP for 2021-22 and 2022-23 are presented in **Table 1.3**. It is observed that relevant best practices of performer states to be adopted in Karnataka for achieving higher growth trajectory.

Table 1.3: Sectoral Growth Rates of GSDP at Constant (2011-12) Prices (Percent)

Sl. No.	Sector	2021-22 F.R.E.	Best State	2022-23 A.E.
1	Crops	6.0	16.3 (Maharashtra)	3.2
2	Livestock	10.0	17.6 (Maharashtra)	10.0
3	Forestry and Logging	0.1	21.5 (Telangana)	2.2
4	Fishing	89.9	25.9 (AP)	16.6
	Agriculture and Allied Sector	8.7		5.5
5	Mining and Quarrying	29.0	86.8 (UP)	4.8
6	Manufacturing	11.1	42.1 (Odisha)	4.9
7	Electricity, Gas, Watersupply & Remediation Services	1.5	16.3 (AP)	2.2
8	Construction	7.9	26.8 (AP)	6.6

Sl. No.	Sector	2021-22 F.R.E.	Best State	2022-23 A.E.
	Industry Sector	10.3		5.1
9	Trade & Repair Services	16.0	41.5 (Telangana)	18.8
10	Hotels and Restaurants	86.7	74.6 (TN)	18.5
11	Railways	11.1	21.1 (Rajasthan)	13.7
12	Road transport	1.9	19.4 (AP)	2.8
13	Water transport	-3.2		4.2
14	Air transport	95.6		20.3
15	Services incidental to transport	46.3		20.1
16	Storage	7.7	84.4(AP)	7.3
17	Communication	9.4	24.4 (AP)	17.2
18	Financial Services	4.2	21.6 (AP)	6.4
19	Real Estate, Professional Services & Ownership of Dwellings	6.3	21.5 (Odisha)	8.7
	a) Computer related Services	5.4		9.5
	b) Real Estate & Other Professional Services	5.4		9.6
	c) Ownership of Dwellings	11.3		3.9
20	Public Administration	15.7	18.6 (Odisha)	1.9
21	Other services	28.9	18.3 (Telangana)	6.1
	Services Sector	10.3		9.2
	Total GSVA at Basic Prices	10.1		7.7
	Product Tax	13.8		6.2
	Product Subsidies	-6.7		-9.7
	Total GSDP at Market Prices	11.0		7.9

A.E.: Advance Estimates, F.R.E.: First Revised Estimates

Source: Directorate of Economics and Statistics, Government of Karnataka

1.6 NET STATE DOMESTIC PRODUCT

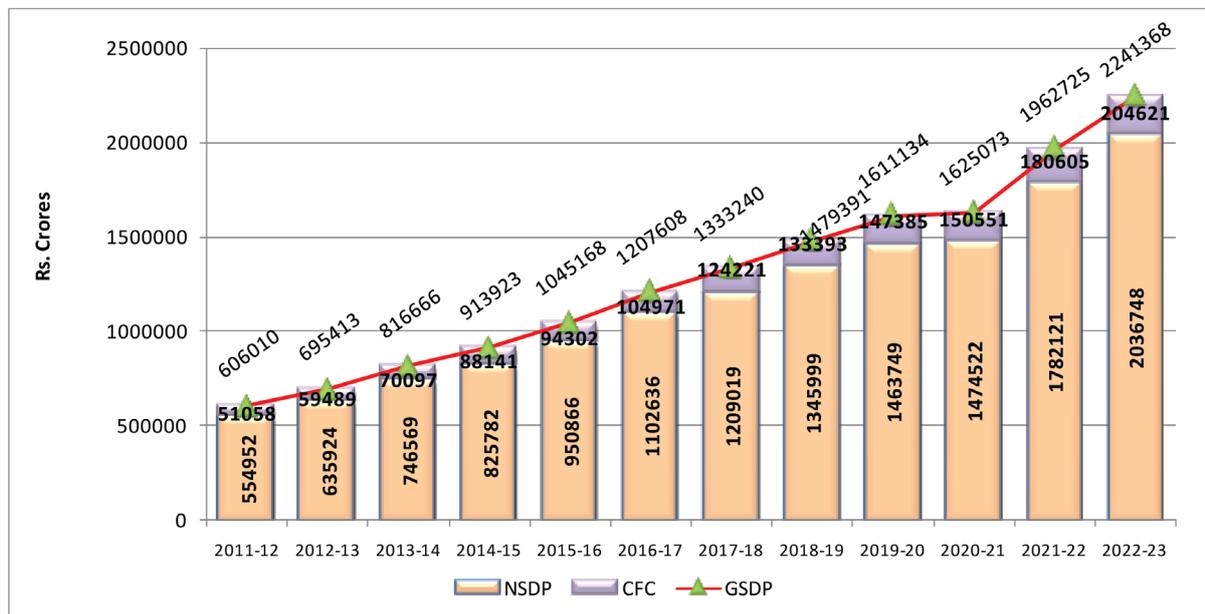
The estimates of Net State Domestic Product (NSDP) are derived from the Gross State Domestic Product (GSDP) by deducting Consumption of Fixed Capital (CFC) or Depreciation. For the year 2022-23, at current prices, NSVA growth of agriculture & allied activities, industry and service sectors are expected at 11.9%, 10.9% and 15.6% respectively which has lead the NSDP to Rs.20,36,748 crore, showing a growth of 14.3% against 20.9% in 2021-22. Similarly, at constant (2011-12) prices the NSDP is estimated at Rs.11,90,851 crore showing a growth of 7.9% (Table 1.4). The NSVA growth of Agriculture & allied activities, Industry and Service sectors are expected to be 5.6%, 5.1% and 9.3% respectively.

Table 1.4 : NSDP at Current and Constant (2011-12) Prices

Sectors	NSDP at Current Prices		NSDP at Constant (2011-12) Prices	
	2021-22 F.R.E.	2022-23 A.E	2021-22 F.R.E.	2022-23 A.E
Agriculture	2,61,343	2,92,365	1,22,088	1,28,932
Industry	3,38,011	3,74,741	2,37,857	2,50,088
Services	10,21,736	11,81,288	6,04,515	6,60,670
NSVA at Basic Price	16,21,090	18,48,394	9,64,460	10,39,690
Product Tax	1,97,954	2,23,636	1,61,360	1,71,354
Product Subsidies	36,923	35,278	22,353	20,193
NSDP at Market Price	17,82,121	20,36,748	11,03,468	11,90,851

Source: Directorate of Economics and Statistics, Government of Karnataka

Figure 1.1 shows the GSDP, NSDP and CFC at current prices from 2011-12 to 2022-23. The difference in GSDP and NSDP indicates the extent of consumption of fixed capital or depreciation.

Figure 1.1: GSDP, NSDP and CFC at current prices

1.7 SECTORAL COMPOSITION OF GROSS STATE DOMESTIC PRODUCT

The contribution of Agriculture sector to the overall GSDP saw a marginal decrease from 15.36% to 15.08% in 2022-23 against 2021-22. Industry sector saw a marginal decrease from 21.48% to 20.88% in 2022-23 against 2021-22. The services sector, a largest component of GSDP saw a marginal increase from 63.16% in 2021-22 to 64.04% in 2022-23. The contribution of 'Real estate, Professional Services & Ownership of Dwellings' is highest with (34.31%) in 2022-23 followed by Computer related services and R&D (24.34%), 'Manufacturing' (13.28), 'Crops (9.80%)' and 'Trade and Repair Services (9.52%)'.

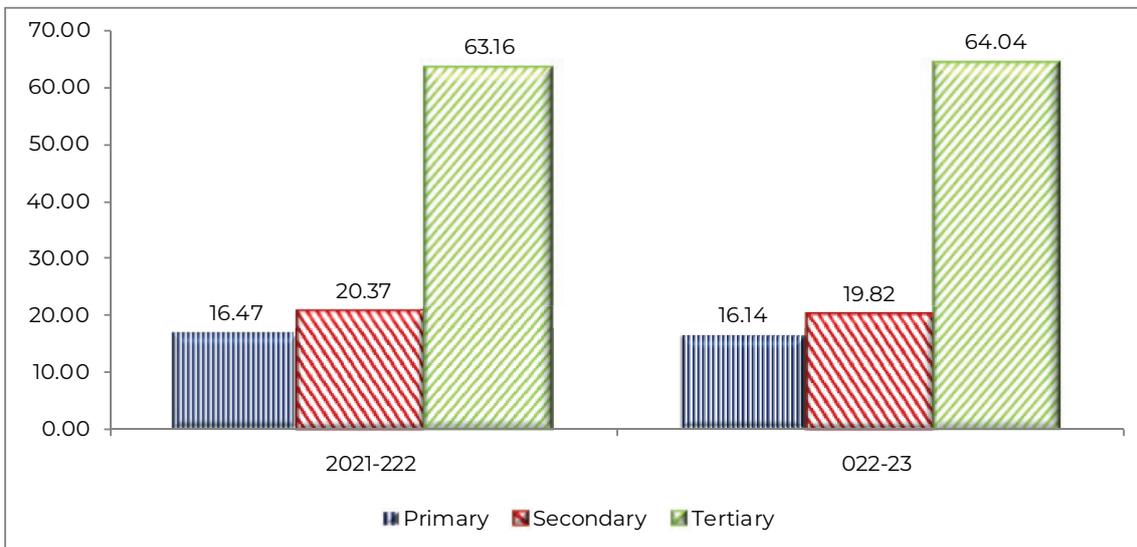
The sectoral composition and department (probable) wise GSDP in 2021-22 and 2022-23 at current prices is given in **Table 1.5**. The sectoral composition of GSDP is shown in **Figure 1.2** for primary, secondary and tertiary sectors. The details of Gross State Domestic Product estimates from 2016-17 to 2022-23 are presented in **Appendix 1.1 to 1.4**.

Table 1.5: Sectoral shares of GSDP at Current Prices (Percent)

Sl. No	Sector (Department)	2021-22 F.R.E.	2022-23 A.E.
1	Crops (Agriculture, Horticulture)	10.14	9.80
2	Livestock (Animal Husbandry)	3.67	3.76
3	Forestry and Logging (Forest)	0.98	0.85
4	Fishing (Fisheries)	0.57	0.67
	Agriculture and Allied Sector	15.36	15.08
5	Mining and Quarrying (Mines and Geology)	1.11	1.06
6	Manufacturing (Commerce and Industry)	13.74	13.28
7	Electricity, Gas, Water supply & Remediation Services (Energy)	1.39	1.33
8	Construction (Public Works Department)	5.24	5.21
	Industry Sector	21.48	20.88
9	Trade & Repair Services	8.73	9.52
10	Hotels and Restaurants (Tourism)	1.22	1.33
11	Railways (Railways)	0.26	0.28
12	Road Transport (Transport)	3.03	3.27
13	Water Transport (Ports and Inland waterways)	0.02	0.02
14	Air Transport	0.13	0.14
15	Services Incidental to Transport	0.07	0.08
16	Storage	0.10	0.10
17	Communication	1.29	1.38
18	Financial Services	4.64	4.66
19	Real estate, Ownership of Dwellings & Professional Services	34.36	34.31
	a) Computer related Services (IT &BT)	24.24	24.34
	b) Real Estate & Other Professional Services	4.40	4.42
	c) Ownership of Dwellings	5.72	5.55
20	Public Administration (General Governance)	2.75	2.57
21	Other services (Education and Medical)	6.56	6.38
	Services Sector	63.16	64.04
	Total GSVA at Basic Prices	100.00	100.00

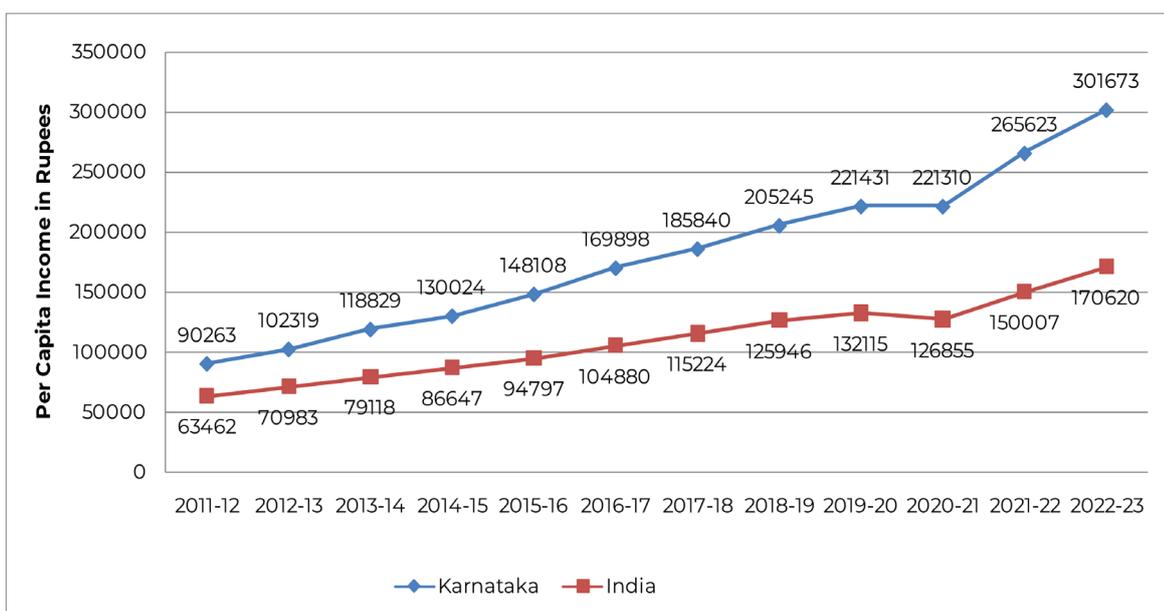
A.E.: Advance Estimates, F.R.E.: First Revised Estimates

Source: Directorate of Economics and Statistics, Government of Karnataka

Figure 1.2: Sectoral composition of GSVA at Current Prices

1.8 PER CAPITA INCOME

Per capita income is estimated by dividing NSDP at current prices with mid-financial year projected population (as on 1st October). Per Capita State Income (i.e. per capita NSDP) of Karnataka at current prices is estimated to be Rs.3,01,673 showing a rise of 13.6% during 2022-23, as against Rs.2,65,623 in 2021-22. Karnataka's per capita income is higher than All India per capita income. **Figure 1.3** provides comparison of per capita income of Karnataka and All India from 2011-12 to 2022-23. It is significant to note that the per capita income has shown a steep increase after 2020-21, indicating gradual recovery of state's economy after the economic downturn due to covid pandemic.

Figure 1.3: Comparison of Per Capita Income

On comparison, the level of per capita state income at constant (2011-12) prices was Rs.1,64,471 in 2021-22 and is expected to be Rs. 1,76,383 in the year 2022-23 with a growth rate of 7.2%.

1.9 GROWTH OF NSDP AND PER CAPITA INCOME

Table 1.6 presents the growth of Net State Domestic Product and Per Capita Income of the state over the years. CAGR shows incremental growth over time. The historical GSDP data is presented in **Appendix 1.5**.

Table 1.6: Growth of NSDP at Market Price and Per Capita Income

Year	NSDP at Current Prices (Rs.Crore)	CAGR (%)	Per Capita Income (Rs.)	CAGR (%)
1960-61	692	-	296	-
1970-71	1,858	10.4	641	8.0
1980-81	5,587	11.6	1,520	9.0
1990-91	20,551	13.9	4,598	11.7
2000-01	96,348	16.7	18,344	14.8
2010-11	3,68,338	14.4	62,251	13.0
2020-21 (S.R.E.)	14,74,522	14.9	2,21,310	13.5
2021-22 (F.R.E.)	17,82,121	20.9	2,65,623	20.0
2022-23 (A.E.)	20,36,748	14.3	3,01,673	13.6

A.E.: Advance Estimates, F.R.E.: First Revised Estimates, S.R.E.: Second Revised Estimates

Source: Directorate of Economics and Statistics, Government of Karnataka

1.10 INTER STATE COMPARISON

The comparison of GSDP or State Income and per capita income of Karnataka for 2021-22 with selected States (for which data is available in MoSPI website) alongside All India is presented in **Table 1.7**. Based on the rankings of states in the table, Karnataka stands at 4th in per capita income and Karnataka is lower by 3% to Telangana.

Table 1.7: Comparison of State Income and Per Capita Income for the year 2021-22

Sl. No.	State	State Income (Rs Crore)	Per capita Income (Rs)	Ranking in Per Capita Income
1	Delhi	9,23,967	4,01,982	1
2	Telangana	11,48,115	2,75,443	2
3	Haryana	8,95,671	2,74,635	3
4	Karnataka	19,62,725	2,65,623	4
5	Tamil Nadu	20,65,436	2,41,131	5
6	Kerala	9,01,998	2,30,601	6
7	Puducherry	37,485	2,14,913	7

Sl. No.	State	State Income (Rs Crore)	Per capita Income (Rs)	Ranking in Per Capita Income
8	Andhra Pradesh	12,01,736	2,07,771	8
9	Himachal Pradesh	1,75,173	2,01,854	9
10	Uttarakhand	2,53,832	1,96,282	10
11	Punjab	5,84,042	1,62,112	11
12	Rajasthan	11,96,137	1,35,218	12
13	Madhya Pradesh	11,69,004	1,24,685	13
14	Odisha	6,42,087	1,24,669	14
15	Jammu & Kashmir-U.T.	1,95,118	1,21,000	15
16	Jharkand	3,43,178	78,660	16
17	Uttar Pradesh	18,63,221	68,810	17
18	Bihar	6,75,448	49,470	18
All India		2,36,64,638	1,50,007	

Source: 1. Karnataka: Directorate of Economics and Statistics, Government of Karnataka.

2. Rest of the States and all India: Central Statistical Office, Government of India.

1.11 DISTRICT INCOME

The District Domestic Product estimates are prepared on a provisional basis. The database for the estimation is available for Primary sector only. In respect of Secondary and Tertiary sectors, the State level estimates are allocated to districts with appropriate available indicators and workforce under each sector as revealed during 6th Economic Census. The Directorate of Economics and Statistics publishes important publications namely "Karnataka at a Glance" and "District at a Glance" every year. This publication provides approximately 2000 indicators of data, both static information (Population Census, Agricultural Census and Livestock Census) and dynamic information related to the programmes of various development departments in addition to socio-economic and geographical information of the districts /taluks. This publication provides district wise / taluk wise data needed for computation of District Domestic Product Estimates. This publication also provides maps of taluks and districts also. The estimates of Gross District Domestic Product for 2021-22 with sectoral contribution for all the 30 districts in the State are presented in **Table 1.8**.

Table 1.8 : Gross / Net District Domestic Product and Per Capita Income Year : 2021-22

(Rs. Lakh)

Sl. No	District	Agriculture	Rank	Industry	Rank	Services	Rank	Gross District Domestic Product (GDDP)	Rank
1	Bangalore Urban	0.5	30	16.8	25	82.6	1	69846083	1
2	Dakshina Kannada	13.1	28	38.5	1	48.5	25	11185925	2

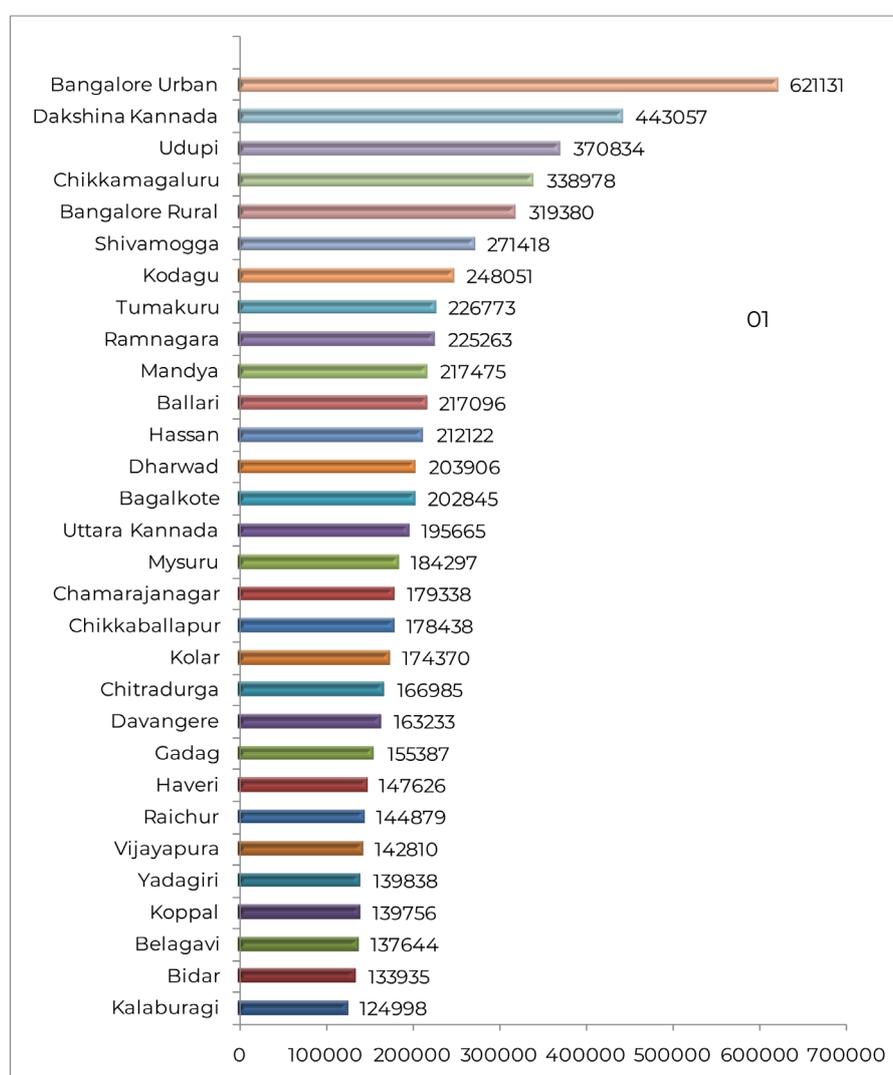
Sl. No	District	Agriculture	Rank	Industry	Rank	Services	Rank	Gross District Domestic Product (GDDP)	Rank
3	Belagavi	26.1	11	22.0	12	52.0	15	8240007	3
4	Tumakuru	23.4	17	29.4	4	47.2	26	7517733	4
5	Mysuru	19.4	23	17.6	23	63.1	3	6829719	5
6	Ballari	17.0	27	30.4	3	52.6	14	6648034	6
7	Shivamogga	28.5	9	21.5	13	50.0	20	5804071	7
8	Udupi	18.1	26	27.9	6	54.0	11	5250451	8
9	Mandya	20.0	22	22.0	11	58.0	7	4807951	9
10	Bagalkote	21.2	21	27.8	7	51.0	18	4699188	10
11	Chikkamagaluru	25.7	13	28.8	5	45.5	27	4692175	11
12	Hassan	24.2	16	16.1	27	59.8	6	4621771	12
13	Dharwad	10.4	29	24.8	10	64.8	2	4599906	13
14	Kalaburagi	25.5	14	20.8	14	53.7	12	4049998	14
15	Davanagere	35.3	2	20.0	18	44.7	28	3948871	15
16	Vijayapura	30.6	7	20.2	17	49.2	21	3905803	16
17	Bangalore Rural	32.7	6	26.2	9	41.1	29	3799736	17
18	Raichur	29.7	8	17.7	22	52.6	13	3490546	18
19	Uttara Kannada	22.3	18	19.9	20	57.8	8	3473296	19
20	Chitradurga	35.3	3	16.0	29	48.8	24	3455085	20
21	Kolar	21.9	19	26.9	8	51.2	17	3355957	21
22	Ramanagara	18.1	25	32.8	2	49.1	22	3012959	22
23	Haveri	25.9	12	16.5	26	57.6	9	2935242	23
24	Bidar	21.5	20	16.8	24	61.7	4	2844017	24
25	Chikkaballapur	28.1	10	20.3	16	51.6	16	2775668	25
26	Koppal	33.0	5	18.1	21	48.8	23	2413973	26
27	Chamarajanagar	24.2	15	20.5	15	55.3	10	2276867	27
28	Gadag	18.8	24	19.9	19	61.3	5	2061535	28
29	Yadagiri	33.9	4	16.1	28	50.1	19	2042312	29
30	Kodagu	49.8	1	12.1	30	38.1	30	1687660	30
	State	15.4		21.5		63.2		196272540	

It is evident from the table 1.8, that the districts which it shows higher growth in services and industries will fare well with overall growth in DDP. The districts which are at very lowest positions are well placed in Agriculture sector, however, due to less presence of industries and services establishments, these districts fared poorly. Further due to addition of new data items viz., Private Corporate part etc., and availability of new data sources in computation of GSDP of the State, identification of suitable physical indicators with respect to each sector to be allocated for the districts is in process. Because of data limitations, it may not be very useful to analyse sector-wise district estimates between any two given points of time as these estimates have not yet firmed up. Bangalore Urban District stood first in the total District Income as well as per capita district income for

the year 2021-22. Bengaluru Urban District contributes 35.6% to GSDP at current Prices followed by Dakshina Kannada (5.7%), Belagavi (4.2%).

At constant (2011-12) prices, contribution of Belagavi district to the primary sector is highest in 2021-22, due to a higher contribution in crop sector. Bengaluru Urban District tops in secondary and tertiary sectors due to high concentration of major industries and infrastructure facilities. Every district has a potential for growth in one or the other sector which can be used by the district planning committees to support the NITI Aayog's aspirational programme "District as a Fulcrum of Development" to strengthen and enhance the GDP. The per capita income (in rupees) at current prices for all 30 districts for the year 2021-22 is presented in **Figure 1.4**.

Figure 1.4: District wise Per Capita Income (in rupees) for the year 2021-22



District income is also a measure of the level and growth of economic development prevailing in the district level. It is a useful policy indicator to monitor the nature and degree of inter-district variations as well as, disparities in the process of economic growth at the State level. A simple statistical indicator of inter-district variations in the levels of

district income is the coefficient of variation. **Figure 1.5** shows these computed values across the four divisions and at the State level.

Figure 1.5 : Inter-district variations of Gross District Income and Per Capita Income by Divisions in Karnataka for 2021-22

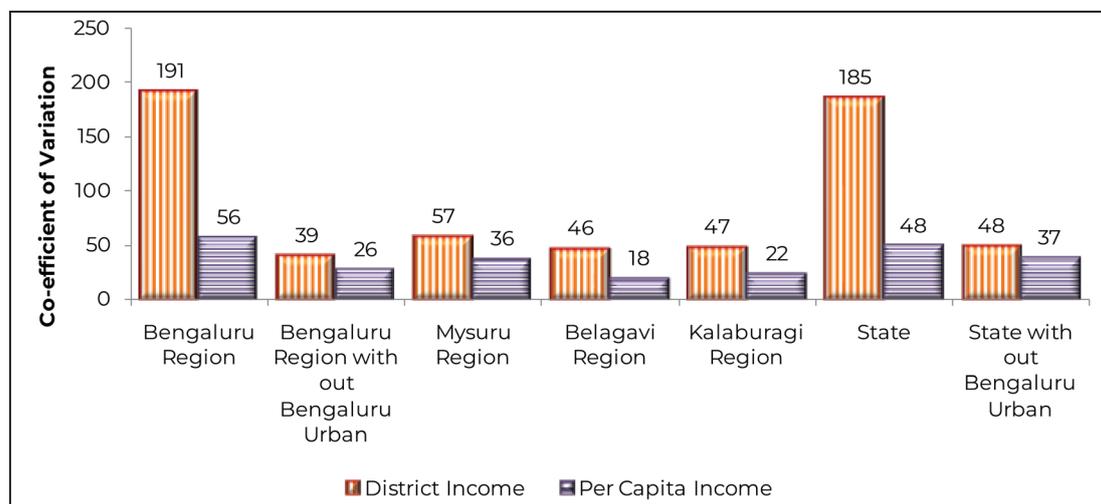
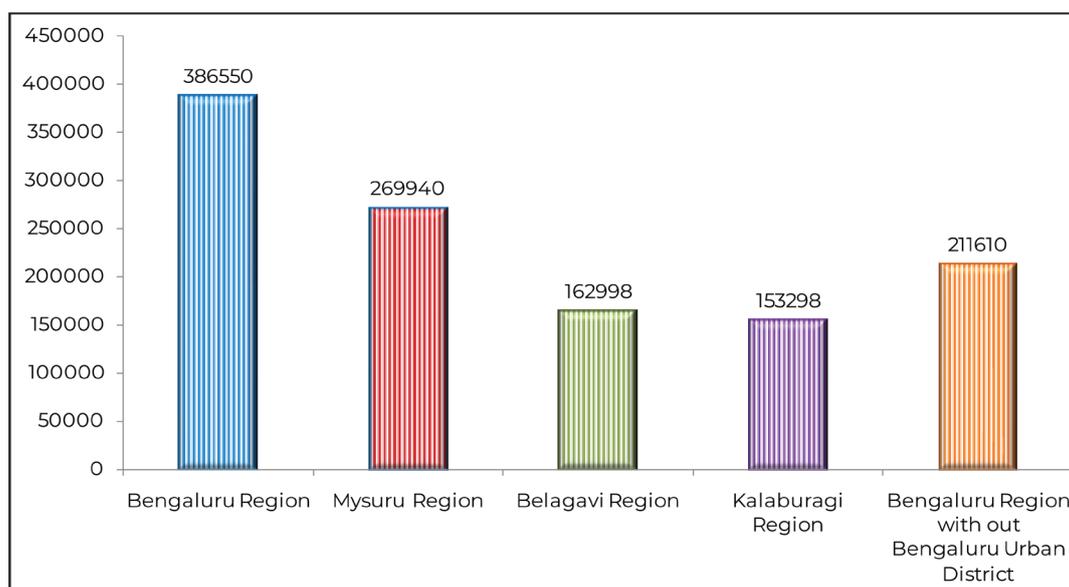


Figure 1.5 indicates the variations in gross district and per capita district income among the revenue regions (divisions) of the State. The highest variation is evident with respect to Bengaluru division, if Bengaluru Urban District is included. Excluding Bengaluru Urban district, these inter-district variations in district income and per capita district income, get remarkably reduced at the division and State levels which is nothing but the districts without Bangalore Urban is fairly developed across all the districts. The growing inter-district variation is an important indicator and a source of broader inter-regional disparities in the process of State's economic development. However, a low coefficient of variation as such, does not necessarily imply either a higher or a lower district economic growth or regional disparity.

Figure 1.6: Division wise Per Capita Income



It can be observed from Figure 1.6 that Kalaburgi revenue region (comprising Ballari, Bidar, Kalaburgi, Koppal, Raichuru and Yadagiri districts), stood lowest in the per capita income followed by Belagavi and Mysore divisions due to less presence of industries and services sectors in these region. Hence there is a dire need for development of industries and services in these regions through encouraging private investments.

1.11 PRICES

Price is one of the key indicators in the economic planning process. They provide an economic mechanism by which goods and services are distributed among the consumers. Changes in prices have a direct bearing on all sections of the society irrespective of their level of living. Prices determine what goods are to be produced and in what quantities. They also indicate the demand and supply of goods and services in the economy. The wholesale and retail Inflation can be measured in two ways viz., Wholesale Price Index and Consumer Price Index

1.12 INFLATION

Inflation is an increase in the level of prices of goods and services over time. It is the constant rise in the general level of prices where a unit of currency buys less than it did in prior periods. It indicates the purchasing power of a Nation's currency.

In India commonly used inflation indices are the Wholesale Price Index (WPI) and the Consumer Price Index (CPI). As the name indicates the WPI measures Price at the wholesale level and CPI at the consumer level. Beyond the basics, the number and types of items included in the WPI and CPI basket differ and so does the weights given to these items. Food has a larger weight in CPI than WPI, the CPIs are therefore more sensitive to changes in prices of food items. Whereas the fuel group has a much higher weight in WPI than CPIs.

During 2022-23, based on inflation rate of All India **Wholesale Price Index (WPI)** is decreased to 0.13% in 8 (April-November) months. During the corresponding period of previous year inflation rate was increased by 8.86%.

During 2022-23, based on inflation rate of All India level **Consumer Price Index (CPI)** is increased to 3.76% in 8 (April-November) months. During the corresponding period of previous year inflation rate was increased by 4.66%.

1.13 ALL INDIA WHOLESALE PRICE INDEX

Wholesale Price Index measures the average change in the prices of commodities for bulk sale at the level of early stage of transactions. The index basket of the WPI covers commodities in three major groups namely Primary Articles, Fuel and power and manufactured products.

Wholesale Price Index is released by the Office of Economic Advisor (OEA), Department of Industrial Policy and Promotion, Ministry of Commerce and Industry. The base year for this index is 2011-12=100. The index basket of the present 2011-12 series has a total of 697 items including 117 items of Primary Articles, 16 items for Fuel and Power and 564 items for Manufactured Products. WPI basket does not cover services.

Wholesale Price Index is used to estimate inflation at the Wholesale transaction level. It is also used for estimating GDP by Central Statistical Office (CSO). This index is released every month at the National level.

During 2021-22 and 2022-23 Wholesale price index analysis given below.

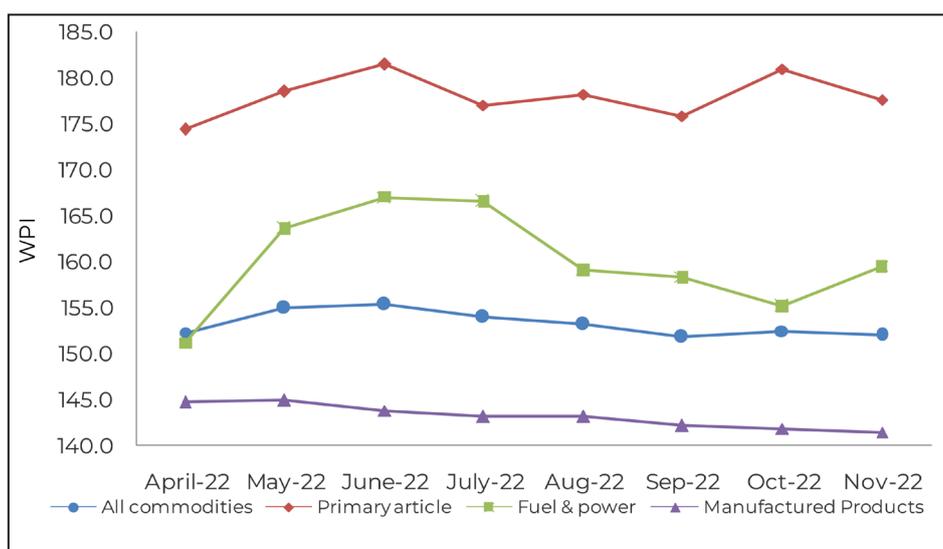
- ❑ During 2022-23, the Index of all commodities decreased from 152.3 in April to 152.1 in November 2022, showing a decrease of 0.13%.
- ❑ During 2021-22, the index of all commodities is increased from 132.0 in April to 143.7 in November 2021, showing an increase of 8.86%.
- ❑ The Annual rate of inflation, based on monthly WPI, stood at 5.85% for the month of November 2022 (over November 2021)

During 2022-23 (April-November) Group-Wise changes in WPI are as follows.

- ❑ Primary Articles (Weight 22.62), the index for this major group rose by 1.83% in 8 months.
- ❑ Fuel and Power (Weight 13.15), the index for this major group increased by 5.56% in 8 months.
- ❑ Manufactured Products (Weight 64.23), the index for this major group decreased by 2.21% in 8 months.

The details of annual all India wholesale price index from April to November for the consecutive years 2020-21, 2021-22 and 2022-23 are presented in **Appendix 1.7** and group wise All-India Wholesale Price Index since 2015-16 are given in **Appendix 1.8**. The **Figure 1.7** shows group wise changes in WPI.

Figure: 1.7 Group wise changes in WPI



1.14 Wholesale Price Index of Karnataka State for 33 Agricultural Commodities: This index is useful to monitor the trends in prices at the first stage of commercial transaction and to estimate the State Domestic Products. The main source of primary data for the construction of this Index is (1) 40 Agricultural Produce Market Committees (APMCs) of

Agricultural Marketing Department situated across the State, who compiles the prices of agricultural commodities (2) Directorate of Sugar (3) Coffee, Tobacco and Spices Board.

During 2021-22 and 2022-23 (April-November) Wholesale Price index of Karnataka State 33 agricultural commodities analysis given below.

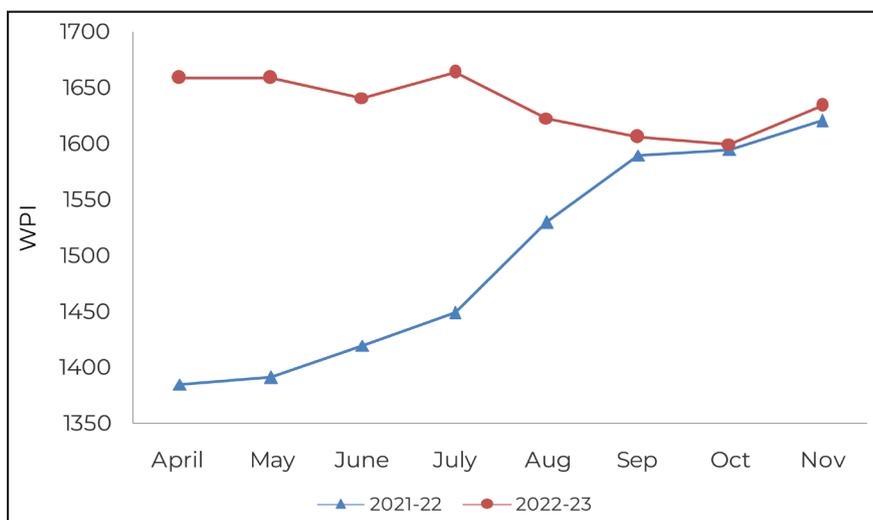
- ❑ During 2022-23, the Index of Wholesale price is decreased from 1658 in April to 1634 in November 2022, showing a decrease of 1.45% in 8 months
- ❑ During 2021-22, the Index of Wholesale price is increased from 1385 in April to 1620 in November 2021, showing an increase of 16.97% in 8 months.
- ❑ In 2022, November index is 1634 and compared to 2021 November index (1620) the annual Index increased to 0.86%.

During 2022-23 (April-November) the statistics of Group-wise WPI is as follows.

- ❑ During 2022, when compared to April to November, all commodities index is decreased by 1.45%. The index of Cereals group index decreased by 12.01%, and Gur and Sugar group index decreased by 0.95% whereas the index of Condiments and Spices group increased by 11.45%, Pulses group index increased by 11.31%, Miscellaneous group index increased by 4.07%, Oil seeds group index increased by 1.90% and the index of Fibre group remains constant.
- ❑ During April to November 2022, the prices of Onion, Tobacco and Dry Chillies are increased by 80%, 31.5% and 19.4% respectively. Whereas the prices of Cardamom, Arecanut and Pepper are decreased by 14.9%, 7.8% and 7.6% respectively.

WPI numbers of agricultural commodities in Karnataka since 2011-12 are given in Appendix 1.9 and group wise index numbers for 2020-21, 2021-22 and 2022-23 are given in Appendix 1.10. The trend of WPI for 33 agricultural commodities in Karnataka for the year 2021-22 and 2022-23 are shown in **Figure. 1.8**. WPI is increasing at an increasing rate in 2021-22, conversely stable during 2022-23 which is due government initiatives.

Figure. 1.8 Average Trend of WPI in Karnataka



1.15 CONSUMER PRICE INDEX

Consumer Price Index is a measure of change in retail prices of goods and services consumed by defined population group in a given area with reference to a base year.

Presently the consumer price indices compiled in India are CPI for Industrial workers (CPI-IW), CPI for Agricultural Labourers (CPI-AL), CPI for Rural Labourers (CPI-RL) and CPI for Rural and Urban (CPI-R& U). The first three indices are constructed and released by the Labour Bureau, Shimla and the fourth by the Central Statistical Office (CSO), New Delhi. In Karnataka, the Directorate of Economics & Statistics constructs and releases only CPI-IW for 9 centres as state series every month.

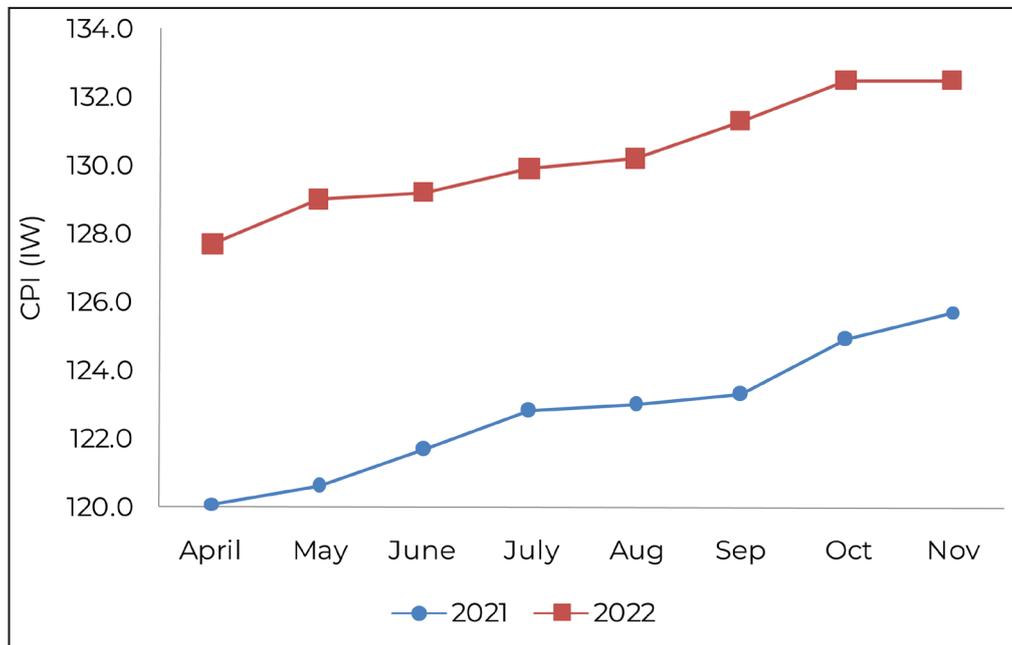
Consumer price index is widely considered as a Barometer of inflation, a tool for monitoring price stability. Also the Dearness allowance of Government employees and wage contracts between labour and employer is based on this index.

1.16 CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS

The target group of CPI-IW is workers of factories, mining, plantations, motor transport, docks, railways & electricity. This index is mainly used to determine the dearness allowance for the employees in both the public and private sectors. At the National level, from September 2020 the base year of CPI (IW) for Central series has been revised from 2001=100 to 2016=100. In this series CPI-IW is constructed for 88 selected industrially developed centres across the country, out of which 7 centres namely Bengaluru, Belagavi, Hubballi-Dharwad, Madikeri, Mysuru, Davanagere and Chikmagaluru based in Karnataka. CPI-IW in April and November for the year 2020-21, 2021-22 and 2022-23 in All India and Karnataka are presented in Appendix-1.11. The trend of all India CPI-IW of 2021-22 and 2022-23 is shown in **Figure 1.9**.

During 2020-21, 2021-22 and 2022-23, All India level consumer price Index for industrial workers analysis given below.

- ❑ All India level consumer price Index of November 2021 was 125.7 points, corresponding period of this year (November 2022) the points moved to 132.5, annual inflation rate is 5.41%. During 2021-22, index of November 2021 was 125.7 points, corresponding period of previous year (November 2020) the index was 119.9 points, and annual inflation rate was 4.84%.
- ❑ During 2022-23 April-November 8 month's average index is 130.3 points, compared to corresponding period of the previous year average index was 122.8 and inflation rate is 6.11%. During 2021-22 April-November 8 month's average index was 122.8 points, compared to corresponding period of the previous year average index was 117.0 and inflation rate was 4.96%.

Figure 1.9: All India Consumer Price Index

1.17 STATE CONSUMER PRICE INDEX FOR INDUSTRIAL WORKERS

In Karnataka, the Directorate of Economics & Statistics constructs CPI-IW for 9 centres viz., Ballari, Bhadravathi, Dandeli, Kalaburagi, Hassan, Mandya, Mangaluru, Raichur and Tumakuru. With effect from February 2022 the base year for the State series index has been revised from 1987-88=100 to 2018=100. Even though revision of base year 2018=100 effected from February 2022 for State series, the previous years indices has been worked out and presented in the related Appendices.

During 2022-23, among the 9 State series centers, General Index of Tumakuru and Kalaburagi centres increased by 4.68% and 4.64% respectively. During 2022-23, the General Index of Tumakuru centre is increased from 119.7 in April to 125.3 in November 2022 showing an increase of 4.68% and from April to November 8 months' average is 123.4 points showing an increase of 6.84% compared to corresponding period of previous year (115.5).

The details of the CPI-IW for All India and Karnataka are presented in **Appendix 1.12, 1.13, and 1.14.**

1.18 CONSUMER PRICE INDEX FOR AGRICULTURAL LABOURERS

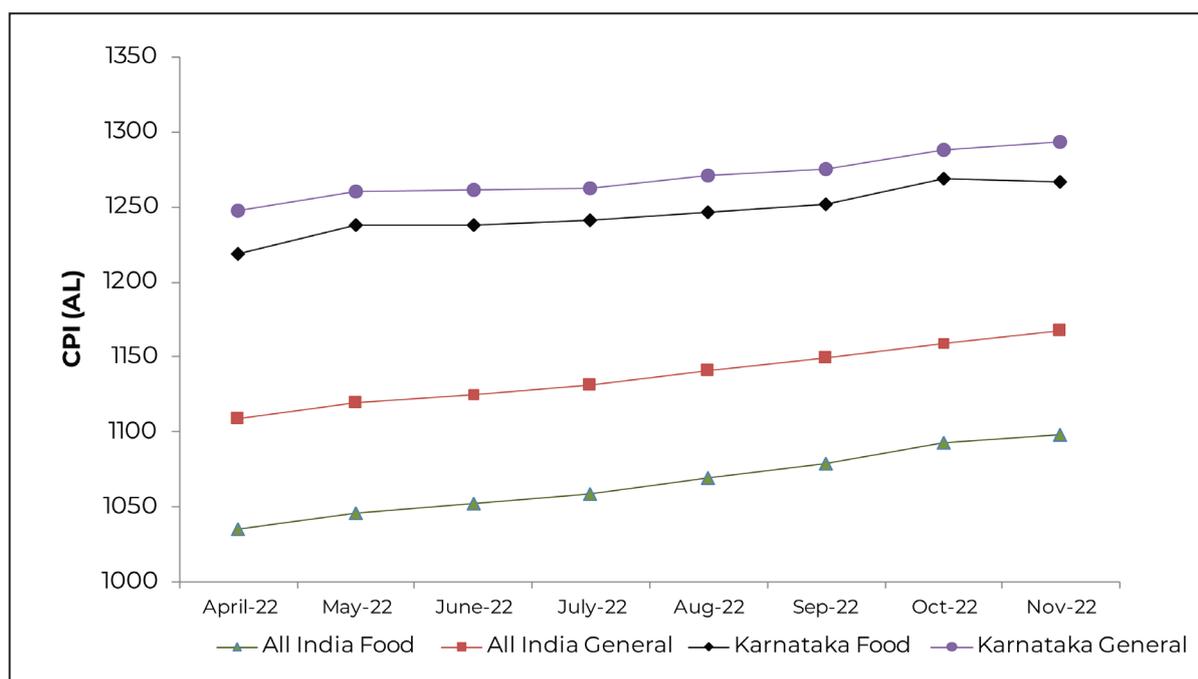
Consumer Price Index for Agricultural Labourers (CPI-AL) for 20 States, including Karnataka, is being constructed every month by the Labour Bureau, Shimla based on the information obtaining from the Field Operation Division of National Sample Survey Office. This index is used for fixation and revision of minimum wages in agriculture sector. The base year for this index is 1986-87=100.

The general index of Karnataka is increased by 3.69% in November 2022 over April 2022 as against an increase in index by 5.32% at all India level.

During 2022-23 (upto November 2022), in Karnataka, the average general index has increased to 1270 from 1234 during same period of 2021-22, thus showing an increase of 2.92%. At the all India level, the index was increased by 6.86%.

CPI-AL in April and November for the years 2020-21, 2021-22 and 2022-23 are presented in **Appendix 1.15**. The CPI-AL at All India and Karnataka from 2011-12 are given in **Appendix 1.16**. The Food and General Index of Agricultural Labourers during 2022-23 is illustrated in the **Figure 1.10**.

Figure. 1.10. Consumer Price Index of Agricultural Labourers



1.19 PRICE SITUATION IN RURAL AND URBAN KARNATAKA

Directorate of Economics & Statistics, Government of Karnataka, collects retail prices of a basket of essential commodities from selected centres in rural and urban areas in order to assess the price situation in the State. Rural retail prices are collected every month and urban retail prices are collected every week for the construction of monthly Rural Retail Price Index Numbers and Urban Retail Price Index Numbers. For both these index numbers, with effect from February 2022 the base year has been revised from 1970=100 to 2018=100. These index numbers are based on un-weighted diagram and focuses on broad price trends in rural and urban areas, to guide policy decisions.

(a) Price Situation in Urban Areas

Every week, retail prices of 26 important commodities are collected from 31 urban centres in the State in order to construct Urban Retail Price Index (URPI). During 2022-23 the index was 130.70 in April 2022 rose to 137.30 in November 2022 showing an increase of 5.05%. The rise in index is attributed to the increase in prices of Dry Chillies (25.1%), Onion (20%) and Gingelly Oil (12.8%). During 2022-23 (up to November 2022), the average URPI (133.92) increased by 13.95% over the corresponding period of the previous year (117.52).

(b) Price Situation in Rural Areas

For the construction of monthly Rural Retail Price Index (RRPI), the retail prices of 32 essential commodities are collected from 452 villages every month. During 2022-23, the index in April 2022 decreased from 126.55 to 125.25 in November 2022 showing a decrease of 1.03%. This decrease was mainly due to decrease in price of Groundnut Oil (-4.3%), where as price of Dry Chillies increased to 32.2%. Upto November 2022, the average RRPI was 125.03 showing an increase of 2.91% over the corresponding period of the previous year (121.49).

The details of Urban and Rural Retail Price Index Numbers in Karnataka are given in **Appendix 1.17**.

1.20 Way Forward

The Gross State Domestic Product (GSDP) is expected to achieve 7.9% growth during 2022-23 as compared to 11% during 2021-22.

- ❑ A committee constituted by Planning Department under the chairmanship of Additional Chief Secretary (Finance Department) ably assisted by FICCI in collaboration with department secretaries, industry experts and external consultants has recommended a set of initiatives to increase the growth rate at 16.8% to achieve State GDP to \$1Tn (99.5 Lakh Cr) by 2032.
- ❑ Karnataka aims to strengthen its decentralized governance to make District as a fulcrum of development by strengthening capacity building, infrastructure support and delegation of powers.
- ❑ Government has constituted an advisory committee on GSDP to review the methodology, quality and consistency of input data used for the estimation of GSDP and to recommend suitable measures for timely flow of data and data sources.
- ❑ To increase the GSDP, the industrial policy 2020-25 envisages top position in merchandise export in the next five years. Amended Industrial Facilitation Act and brought in Affidavit Based Clearance System to promote investments in industrial sector.
- ❑ To increase the service sector contribution, Government has announced new IT policy 2020-25 with special focus on promoting IT beyond Bengaluru
- ❑ One District-One Product initiative of Atmanirbhar will significantly increase the agriculture GSDP
- ❑ New Tourism Policy 2020-25 envisages avenues to promote private investments so as to attract domestic and foreign tourists
- ❑ Labour laws have been simplified by allowing registration / renewal of licence under the Factories Act, up to 15 years, at a time. Notification has been issued, allowing women workers to work in factories, round the clock and the total hours of overtime work, per quarter, has been increased from 75 to 125 hours.

Appendix 1.1 GROSS STATE DOMESTIC PRODUCT - AT CURRENT PRICES

(Rs. Crore)

Sl. No	Industry	2016-17	2017-18	2018-19	2019-20	2020-21 SRE	2021-22 FRE	2022-23 AE
1	Crops	82116	108777	105527	121636	150073	182665	201162
2	Livestock	22873	26308	31685	42512	56707	66190	77157
3	Forestry and Logging	9692	8754	10418	13360	14673	17631	17531
4	Fishing	4380	6195	4868	5347	5294	10311	13732
5	Mining and Quarrying	6791	9021	8968	8746	10130	19925	21860
6	Manufacturing	182184	191252	211302	200084	199601	247510	272662
7	Electricity, Gas, Water supply and Remediation Services	15228	18153	21158	22774	23050	24994	27251
8	Construction	64317	71213	82047	83243	78334	94485	106948
9	Trade and Repair Services	99617	115371	138298	152954	126786	157234	195522
10	Hotel and Restaurants	16267	18852	22414	23556	10937	21891	27222
11	Railways	2699	3025	3108	3758	3813	4694	5837
12	Road Transport	40571	42734	47055	55165	43000	54674	67132
13	Water Transport	297	318	416	375	375	402	433
14	Air Transport	2076	2154	1337	2324	1083	2350	2922
15	Services Incidental to Transport	1000	1037	1211	1241	774	1256	1559
16	Storage	417	432	1630	1591	1605	1843	2064
17	Communication	15576	14436	15657	17733	19257	23228	28263
18	Financial Services	51888	55049	61539	66271	74423	83575	95621
19	Real estate,Ownership of Dwellings and Professional Services	369000	398374	448553	509934	545993	619034	704316
	a) Computer related Services	249370	265615	304494	354542	388956	436797	499751
	b) Other Professional Services	53983	60623	63086	71868	70568	79248	90670
	c) Ownership of Dwellings	65647	72136	80972	83524	86468	102989	113896
20	Public Administration	25875	27875	34648	38100	40368	49585	52799
21	Other Services	70531	79842	86880	101442	87395	118218	131023
	Total GSVA at Basic Prices	1083394	1199172	1338719	1472147	1493668	1801695	2053015
	Product Taxes	146461	156607	165616	166975	167552	197954	223632
	Product Subsidies	22248	22539	24943	27988	36147	36923	35278
	GSDP at Market Prices	1207608	1333240	1479391	1611134	1625073	1962725	2241368
	Population ('000)	64900	65057	65580	66104	66627	67092	67515
	Per Capita GSDP (Rs.)	186072	204934	225586	243727	243906	292542	331981
	Primary Sector	125852	159055	161466	191602	236876	296722	331443
	Secondary Sector	261729	280618	314506	306101	300985	366989	406860
	Tertiary Sector	695814	759499	862747	974444	955807	1137984	1314711
	Total GSVA at Basic Prices	1083394	1199172	1338719	1472147	1493668	1801695	2053015
	I.Agriculture	119060	150034	152498	182856	226747	276797	309583
	II.Industry	268520	289639	323474	314847	311115	386915	428721
	III.Services	695814	759499	862747	974444	955807	1137984	1314711
	Total GSVA at Basic Prices	1083394	1199172	1338719	1472147	1493668	1801695	2053015

AE : Advance Estimates, FRE : First Revised Estimates, SRE : Second Revised Estimates, TRE : Third Revised Estimates

Appendix 1.2 GROSS STATE DOMESTIC PRODUCT - AT CONSTANT (2011-12) PRICES (Rs. Crore)

Sl. No	Industry	2016-17	2017-18	2018-19	2019-20	2020-21 SRE	2021-22 FRE	2022-23 AE
1	Crops	49272	63865	57387	66745	75972	80539	83107
2	Livestock	16360	17568	19880	24725	31249	34373	37813
3	Forestry and Logging	6079	6052	7362	8947	9093	9104	9308
4	Fishing	2812	3441	3029	3141	2988	5674	6614
5	Mining and Quarrying	8500	8371	7776	8123	8605	11098	11633
6	Manufacturing	166462	169137	179874	169723	164818	183132	192065
7	Electricity, Gas, Water supply and Remediation Services	11747	13529	15169	16600	17666	17933	18319
8	Construction	55800	58107	62955	62621	57363	61878	65938
9	Trade and Repair Services	73604	83300	95199	101635	78128	90639	107660
10	Hotel and Restaurants	11968	13569	15388	15615	6686	12484	14797
11	Railways	2076	2280	2297	2283	1871	2079	2363
12	Road Transport	35876	38353	41624	51045	50179	51120	52533
13	Water Transport	242	262	332	295	261	252	263
14	Air Transport	1695	1773	1068	1829	754	1475	1775
15	Services incidental to Transport	817	853	967	977	539	788	947
16	Storage	311	313	1128	1062	997	1074	1152
17	Communication	12758	11850	12431	13860	13381	14643	17167
18	Financial Services	48138	47403	49541	50616	56403	58792	62539
19	Real estate,Ownership of Dwellings and Professional Services	270892	283920	303229	332927	334780	355713	386543
	a) Computer related Services	185493	192776	210509	236517	241636	254599	278836
	b) Other Professional Services	40356	44229	43980	48341	44000	46398	50846
	c) Ownership of Dwellings	45043	46916	48740	48069	49144	54716	56861
20	Public Administration	19930	20934	24862	26420	26485	30639	31235
21	Other Services	49858	54875	56551	63659	52207	67277	71386
	Total GSVA at Basic Prices	845196	899755	958049	1022847	990427	1090705	1175159
	Product Taxes	113935	136865	144902	145405	141754	161360	171354
	Product Subsidies	17357	16912	17851	19446	23969	22353	20193
	GSDP at Market Prices	941774	1019708	1085101	1148806	1108212	1229713	1326319
	Population ('000)	64900	65057	65580	66104	66627	67092	67515
	Per Capita GSDP (Rs.)	145112	156741	165462	173788	166331	183288	196448
	Primary Sector	83023	99296	95434	111681	127908	140788	148476
	Secondary Sector	234008	240773	257998	248943	239848	262943	276323
	Tertiary Sector	528164	559685	604617	662223	622671	686974	750361
	Total GSVA at Basic Prices	845196	899755	958049	1022847	990427	1090705	1175159
	I.Agriculture	74523	90925	87658	103558	119302	129690	136842
	II.Industry	242508	249144	265774	257066	248453	274041	287956
	III.Services	528164	559685	604617	662223	622671	686974	750361
	Total GSVA at Basic Prices	845196	899755	958049	1022847	990427	1090705	1175159

AE : Advance Estimates, FRE : First Revised Estimates, SRE : Second Revised Estimates, TRE : Third Revised Estimates

Appendix 1.3 NET STATE DOMESTIC PRODUCT -- AT CURRENT PRICES

(Rs. Crore)

Sl. No	Industry	2016-17	2017-18	2018-19	2019-20	2020-21 SRE	2021-22 FRE	2022-23 AE
1	Crops	73792	99854	96000	111190	138635	168743	185831
2	Livestock	22595	26003	31337	42082	56168	65562	76424
3	Forestry and Logging	9604	8669	10323	13251	14553	17487	17388
4	Fishing	4023	5743	4523	4954	4905	9552	12722
5	Mining and Quarrying	5703	7569	7564	7209	8349	16423	18018
6	Manufacturing	162562	170227	188034	175153	174730	216669	238687
7	Electricity, Gas, Water supply and Remediation Services	10148	12596	14385	15793	15984	17332	18897
8	Construction	60373	66760	76620	77165	72614	87586	99139
9	Trade and Repair Services	96167	110483	133487	147688	122677	151890	188876
10	Hotel and Restaurants	15188	17728	21022	22086	9790	20400	25368
11	Railways	1745	2012	1974	2547	2486	3061	3807
12	Road Transport	37453	39365	42703	50220	39216	49765	61105
13	Water Transport	206	226	323	293	312	321	333
14	Air Transport	1749	1809	945	1641	560	1671	2088
15	Services incidental to Transport	869	893	1023	1054	631	1070	1330
16	Storage	351	363	1495	1445	1457	1673	1874
17	Communication	11698	10013	10136	11316	12288	14823	18036
18	Financial Services	50750	53782	60103	64669	72624	81556	93310
19	Real estate,Ownership of Dwellings and Professional Services	327627	345756	394950	449799	481605	546033	621258
	a) Computer related Services	221410	230532	268107	312732	343087	385287	440816
	b) Other Professional Services	47930	52616	55547	63393	62246	69902	79977
	c) Ownership of Dwellings	58287	62608	71296	73674	76271	90844	100464
20	Public Administration	20936	22857	28617	31684	32958	40484	43107
21	Other Services	64883	72243	79761	93524	80574	108990	120796
	Total GSVA at Basic Prices	978423	1074951	1205326	1324762	1343117	1621090	1848394
	Product Taxes	146461	156607	165616	166975	167552	197954	223632
	Product Subsidies	22248	22539	24943	27988	36147	36923	35278
	GSDP at Market Prices	1102636	1209019	1345999	1463749	1474522	1782121	2036748
	Population ('000)	64900	65057	65580	66104	66627	67092	67515
	Per Capita GSDP (Rs.)	169898	185840	205245	221431	221310	265623	301673
	Primary Sector	115717	147838	149748	178686	222610	277767	310383
	Secondary Sector	233083	249583	279039	268110	263328	321587	356723
	Tertiary Sector	629623	677531	776539	877966	857179	1021736	1181288
	Total GSVA at Basic Prices	978423	1074951	1205326	1324762	1343117	1621090	1848394
	I.Agriculture	110014	140268	142183	171477	214261	261343	292365
	II.Industry	238786	257152	286604	275319	271678	338011	374741
	III.Services	629623	677531	776539	877966	857179	1021736	1181288
	Total GSVA at Basic Prices	978423	1074951	1205326	1324762	1343117	1621090	1848394

AE : Advance Estimates, FRE : First Revised Estimates, SRE : Second Revised Estimates, TRE : Third Revised Estimates

Appendix 1.4 NET STATE DOMESTIC PRODUCT - AT CONSTANT (2011-12) PRICES (Rs. Crore)

Sl. No	Industry	2016-17	2017-18	2018-19	2019-20	2020-21 SRE	2021-22 FRE	2022-23 AE
1	Crops	43039	57343	50620	61381	69907	74066	76472
2	Livestock	16116	17316	19610	24394	30845	33928	37324
3	Forestry and Logging	6003	5982	7289	8863	9008	9019	9221
4	Fishing	2495	3038	2729	2809	2672	5074	5915
5	Mining and Quarrying	7603	7208	6685	6961	7375	9511	9970
6	Manufacturing	148873	150690	160140	148778	144479	160533	168364
7	Electricity, Gas, Water supply and Remediation Services	7195	8670	9434	10695	11382	11553	11802
8	Construction	52037	53878	57948	56935	52155	56260	59952
9	Trade and Repair Services	70547	79151	91299	97406	75069	86920	103244
10	Hotel and Restaurants	11014	12618	14269	14441	5837	11451	13570
11	Railways	1258	1439	1395	1340	864	960	1091
12	Road Transport	33017	35337	37795	46906	46224	47020	48289
13	Water Transport	159	179	250	227	195	185	193
14	Air Transport	1398	1468	727	1255	206	906	1186
15	Services Incidental to Transport	703	732	813	824	393	637	790
16	Storage	252	256	1020	947	889	958	1027
17	Communication	9447	8112	7900	8549	8254	9033	10590
18	Financial Services	47143	46323	48364	49306	54943	57270	60920
19	Real estate,Ownership of Dwellings and Professional Services	236179	240998	261433	285472	287060	305009	331445
	a) Computer related Services	161723	163632	181493	202803	207193	218308	239090
	b) Other Professional Services	35185	37542	37918	41451	37728	39784	43598
	c) Ownership of Dwellings	39271	39823	42022	41218	42139	46917	48756
20	Public Administration	15443	16506	19732	21056	20420	23622	24082
21	Other Services	44896	48445	50798	57289	46983	60545	64243
	Total GSVA at Basic Prices	754816	795688	850250	905833	875160	964460	1039690
	Product Taxes	113935	136865	144902	145405	141754	161360	171354
	Product Subsidies	17357	16912	17851	19446	23969	22353	20193
	GSDP at Market Prices	851394	915642	977301	1031792	992945	1103468	1190851
	Population ('000)	64900	65057	65580	66104	66627	67092	67515
	Per Capita GSDP (Rs.)	131186	140745	149024	156086	149030	164471	176383
	Primary Sector	75256	90887	86933	104408	119807	131599	138902
	Secondary Sector	208105	213238	227522	216408	208016	228347	240118
	Tertiary Sector	471455	491563	535795	585017	547337	604515	660670
	Total GSVA at Basic Prices	754816	795688	850250	905833	875160	964460	1039690
	I.Agriculture	67653	83679	80248	97447	112432	122088	128932
	II.Industry	215709	220445	234207	223369	215391	237857	250088
	III.Services	471455	491563	535795	585017	547337	604515	660670
	Total GSVA at Basic Prices	754816	795688	850250	905833	875160	964460	1039690

AE : Advance Estimates, FRE : First Revised Estimates, SRE : Second Revised Estimates, TRE : Third Revised Estimates

Appendix 1.5 Gross / Net State Domestic Product and Per Capita Income

Sl. No	Year	"Gross State Domestic Product (GSDP) at Current Prices (Rs. Lakhs)"	"Gross State Domestic Product (GSDP) at Constant Prices (Rs. Lakhs)"	"Net State Domestic Product (NSDP) at Current Prices (Rs. Lakhs)"	"Net State Domestic Product (NSDP) at Constant Prices (Rs. Lakhs)"	"Per Capita Income (Per Capita Net State Domestic Product (NSDP) at Current Prices) (in Rs.)"
1	1960-61a			69164	69164	296
2	1961-62a			76445	74095	320
3	1962-63a			81180	78174	333
4	1963-64a			94137	81348	378
5	1964-65a			108609	81084	427
6	1965-66a			116372	75647	448
7	1966-67a			142621	85711	537
8	1967-68a			152521	85644	562
9	1968-69a			163106	93338	588
10	1969-70a			176316	99881	622
11	1970-71b			185811	185811	641
12	1971-72b			191564	188522	646
13	1972-73b			201243	176970	664
14	1973-74b			281535	204113	907
15	1974-75b			317771	203296	1000
16	1975-76b			309240	216477	951
17	1976-77b			328291	207012	986
18	1977-78b			381307	244450	1117
19	1978-79b			399507	253858	1142
20	1979-80b			482171	261228	1345
21	1980-81c	621032	621032	558736	558736	1520
22	1981-82c	716860	661709	642344	595740	1707
23	1982-83c	801276	680456	713722	610171	1855
24	1983-84c	961003	727767	861717	653582	2192
25	1984-85c	1083088	780809	969723	702315	2416
26	1985-86c	1157468	756897	1021834	673330	2495
27	1986-87c	1327121	824469	1173306	736513	2810
28	1987-88c	1515827	881547	1343482	788292	3159
29	1988-89c	1770911	956698	1567132	856321	3620
30	1989-90c	2021422	1013026	1779770	904572	4044
31	1990-91c	2330040	1025982	2055120	911210	4598
32	1991-92c	3009173	1149444	2673762	1026985	5889
33	1992-93c	3303585	1181049	2916231	1050758	6321
34	1993-94d	4107905	4107906	3698228	3698229	7838
35	1994-95d	4791516	4338693	4306510	3891705	8960

Sl. No	Year	"Gross State Domestic Product (GSDP) at Current Prices (Rs. Lakhs)"	"Gross State Domestic Product (GSDP) at Constant Prices (Rs. Lakhs)"	"Net State Domestic Product (NSDP) at Current Prices (Rs. Lakhs)"	"Net State Domestic Product (NSDP) at Constant Prices (Rs. Lakhs)"	"Per Capita Income (Per Capita Net State Domestic Product (NSDP) at Current Prices) (in Rs.)"
36	1995-96d	5621456	4616681	5002819	4097390	10217
37	1996-97d	6517572	5030220	5807078	4473655	11670
38	1997-98d	7304576	5377782	6475689	4751682	12832
39	1998-99d	8784091	6061964	7875624	5396093	15396
40	1999-00e	10124741	10124741	9053192	9053192	17502
41	2000-01e	10836170	10268651	9634777	9113592	18344
42	2001-02e	11284650	10555966	9889675	9278843	18547
43	2002-03e	12088876	11035977	10589474	9776504	19621
44	2003-04e	13098974	11417352	11423011	9966856	20901
45	2004-05f	16674713	16674713	14872897	14872898	26882
46	2005-06f	19590407	18427703	17491121	16403065	31239
47	2006-07f	22723706	20266010	20381918	18108596	35981
48	2007-08f	27062879	22820215	24302840	20380990	42419
49	2008-09f	31031233	24442138	27853414	21830924	48084
50	2009-10f	33755850	24759029	30074742	21836349	51364
51	2010-11f	41070316	27272131	36833840	24081677	62251
52	2011-12g	60600981	60600981	55495220	55495220	90263
53	2012-13g	69541304	64303303	63592383	58655162	102319
54	2013-14g	81666615	70446605	74656904	63994017	118829
55	2014-15g	91392303	74842912	82578249	67128351	130024
56	2015-16g	104516810	83132991	95086639	74995161	148108
57	2016-17 g	120760772	94177405	110263629	85139399	169898
58	2017-18g	133324000	101970817	120901931	91564189	185840
59	2018-19g	147939143	108510062	134599856	97730148	205245
60	2019-20g	161113386	114880569	146374878	103179220	221431
61	2020-21 SRE	162507298	110821175	147452214	99294473	221310
62	2021-22 FRE	196272542	122971294	178212051	110346778	265623
63	2022-23 AE	224136839	132631929	203674768	119085053	301673

"Note: Estimates of Net State Domestic Product only were computed from 1960-61 to 1979-80.

- a) Computed with base year as 1960-61
- b) Computed with base year as 1970-71
- c) Computed with base year as 1980-81
- d) Computed with base year as 1993-94
- e) Computed with base year as 1999-2000
- f) Computed with base year as 2004-05
- g) Computed with base year as 2011-12

AE : Advance Estimates, FRE : First Revised Estimates, SRE : Second Revised Estimates,
Source: Directorate of Economics and Statistics, Government of Karnataka.

Appendix 1.6 Gross / Net District Domestic Product and Per Capita Net District Income for the year 2021-22 (Provisional) (Rs. Crore)

Sl. No	District	Gross District Domestic Product (GDDP)		Net District Domestic Product (NDDP)		"Per Capita Income (Per Capita NDDP at Current Prices) (in Rs.)"
		Current Prices	Constant Prices	Current Prices	Constant Prices	
1	Bagalkote	46992	29392	42095	25993	202845
2	Bengaluru Urban	698461	443487	656283	412963	621131
3	Bengaluru Rural	37997	22488	34754	20211	319380
4	Belagavi	82400	49656	72246	42737	137644
5	Ballari	66480	41324	58471	35985	217096
6	Bidar	28440	17232	25052	14906	133935
7	Vijayapura	39058	23604	34147	20216	142810
8	Chamarajanagar	22769	13949	20104	12130	179338
9	Chickballapur	27757	16827	24594	14661	178438
10	Chikkamagaluru	46922	28653	42361	25598	338978
11	Chitradurga	34551	20880	30430	18036	166985
12	Dakshina Kannada	111859	75051	101671	67672	443057
13	Davangere	39489	21628	34874	18643	163233
14	Dharwad	45999	29326	41359	26039	203906
15	Gadag	20615	17264	18166	15256	155387
16	Kalaburagi	40500	28474	35227	24670	124998
17	Hassan	46218	28717	41380	25373	212122
18	Haveri	29352	17715	25901	15353	147626
19	Kodagu	16877	9350	15105	8220	248051
20	Kolar	33560	20863	29420	17975	174370
21	Koppal	24140	14461	21332	12530	139756
22	Mandya	48080	30623	43125	27137	217475
23	Mysuru	68297	42234	60739	36938	184297
24	Raichur	34905	21409	30687	18539	144879
25	Ramnagara	30130	19301	26782	16933	225263
26	Shivamogga	58041	32972	52242	29168	271418
27	Tumakuru	75177	45877	66715	40107	226773
28	Udupi	52505	33347	47946	30146	370834
29	Uttara Kannada	34733	20861	30880	18232	195665
30	Yadagiri	20423	12751	18033	11101	139838
	State	1962725	1229713	1782120	1103468	265623

Source: Directorate of Economics and Statistics, Government of Karnataka.

Appendix -1.7 Index Numbers of Wholesale Prices in India

Base Year : 2011-12=100

Sl. No.	Item group	Weight	2020		2021		2022		Percentage variation in November over April		
			April	November	April	November	April	November	2020	2021	2022
1	Primary Articles	22.62	137.8	152.8	151.5	168.4	174.5	177.7	10.89	11.16	1.83
2	Fuel & Power	13.15	89.8	94.2	108.9	136.0	151.2	159.6	4.90	24.89	5.56
3	Manufactured Products	64.23	118.7	121.6	129.9	136.6	144.7	141.5	2.44	5.16	-2.21
	All Commodities	100.00	119.2	125.1	132.0	143.7	152.3	152.1	4.95	8.86	-0.13

Source: Office of the Economic Adviser, Ministry of Commerce and Industry, GOI.

Appendix - 1.8 All - India Wholesales Prices Index Numbers

Year	Primary Articles	All Commodities	Percentage variation over previous year / month	
			Primary Articles	All Commodities
Base year: 2011-12=100				
2015-16	124.6	109.7	-0.38	-3.65
2016-17	128.9	111.6	3.43	1.73
2017-18	130.6	114.9	1.38	2.92
2018-19	134.2	119.8	2.74	4.27
2019-20	143.3	121.8	6.77	1.68
2020-21	145.7	123.4	1.67	1.31
2021-22	159.9	139.4	9.75	12.97
(January 2022 to November 2022)				
January 2022	167.5	143.8	-0.53	0.35
February 2022	167.5	145.3	0.00	1.04
March 2022	170.9	148.9	2.03	2.48
April 2022	174.5	152.3	2.11	2.28
May 2022	178.5	155.0	2.29	1.77
June 2022	181.5	155.4	1.68	0.26
July 2022	177.1	154.0	-2.42	-0.90
August 2022	178.3	153.2	0.68	-0.52
September 2022	175.9	151.9	-1.35	-0.85
October 2022	181.0	152.5	2.90	0.39
November 2022	177.7	152.1	-1.82	-0.26

Source: Office of the Economic Adviser, Ministry of Commerce and Industry, GOI.

Appendix - 1.9 Wholesale Price Index Numbers of Agricultural \ Commodities in Karnataka

Base year : 1981-82=100		
Year	Index	Percentage variation over previous year/month
2011-12	891	12.22
2012-13	978	9.76
2013-14	1042	6.54
2014-15	1151	10.46
2015-16	1201	4.34
2016-17	1198	-0.25
2017-18	1205	0.58
2018-19	1257	4.32
2019-20	1338	6.44
2020-21	1404	4.93
2021-22	1545	10.04
(January 2022 to November 2022)		
January 2022	1639	0.24
February 2022	1641	0.12
March 2022	1643	0.12
April 2022	1658	0.91
May 2022	1658	0.00
June 2022	1641	-1.03
July 2022	1663	1.34
August 2022	1623	-2.41
September 2022	1605	-1.11
October 2022	1600	-0.31
November 2022	1634	2.13

Source : Directorate of Economics and Statistics, GOK.

Appendix - 1.10 Groupwise Index Numbers of Wholesale Prices of Agricultural Commodities in Karnataka Base Year 1981-82=100

Sl. No.	Commodity Group	Weight	2020		2021		2022		Percentage variation in November over April		
			April	November	April	November	April	November	2020	2021	2022
1	Cereals	29.89	1534	1471	1383	1674	1732	1524	-4.11	21.04	-12.01
2	Pulses	4.92	1438	1512	1587	1614	1565	1742	5.15	1.70	11.31
3	Oilseeds	17.31	1421	1125	1399	1415	1471	1499	-20.83	1.14	1.90
4	Gur & Sugar	14.56	714	691	710	714	734	727	-3.22	0.56	-0.95
5	Fiber	9.64	1064	1054	1075	1407	1464	1464	-0.94	30.88	0.00
6	Condiments and Spices	2.27	1447	1235	1222	1200	1528	1703	-14.65	-1.80	11.45
7	Miscellaneous *	21.41	1758	2296	1944	2469	2458	2558	30.60	27.01	4.07
	All Commodities	100.00	1391	1431	1385	1620	1658	1634	2.88	16.97	-1.45

Note: * Miscellaneous items include coffee, onion, potato, tobacco, tamarind, coconut and arecanut.

Source: Directorate of Economics and Statistics, GOK.

Appendix - 1.11 Consumer Price Index Numbers for Industrial Workers at All India and Karnataka

Month	All India			Karnataka*		
	Base year : 2016=100			Base year : 2018=100		
	2020-21	2021-22	2022-23	2020-21	2021-22	2022-23
April	114.2	120.1	127.7	106.8	112.8	119.3
May	114.6	120.6	129.0	107.1	113.2	121.1
June	115.3	121.7	129.2	107.9	114.1	121.1
July	116.7	122.8	129.9	108.6	114.7	121.9
August	117.4	123.0	130.2	108.9	115.0	122.0
September	118.1	123.3	131.3	110.0	115.3	123.5
October	119.5	124.9	132.5	110.9	116.3	124.3
November	119.9	125.7	132.5	111.3	117.3	124.4
December	118.8	125.4		111.2	117.5	
January	118.2	125.1		111.2	117.4	
February	119.0	125.0		112.2	117.4	
March	119.6	126.0		112.6	117.8	

Note : * Average of 16 centres (9 State series + 7 Central series)

Source : 1) Labour Bureau, Shimla, GOI. 2) Directorate of Economics and Statistics, GOK.

Appendix- 1.12 Consumer Price Index Numbers for Industrial Workers in Karnataka

Sl. No.	Centres	2020-21		2021-22		2022-23		Percentage variation in November over April		
		April	November	April	November	April	November	2020-21	2021-22	2022-23
Central Series (Base year: 2016=100)										
1	Bengaluru	111.3	115.5	116.5	120.0	121.1	124.9	3.77	3.00	3.14
2	Belagavi	111.9	119.9	120.3	126.2	127.9	135.7	7.15	4.90	6.10
3	Hubballi-Dharwad	112.3	117.9	118.8	123.1	125.9	128.0	4.99	3.62	1.67
4	Madikeri	106.4	109.9	113.6	122.3	123.1	129.6	3.29	7.66	5.28
5	Mysuru	109.9	113.8	118.2	124.3	127.1	132.5	3.55	5.16	4.25
6	Davanagere	119.0	122.8	122.9	127.3	129.8	137.3	3.19	3.58	5.78
7	Chikmagalore	108.0	118.8	111.4	116.1	117.9	125.8	10.00	4.22	6.70
State Series (Base year:2018=100)										
8	Ballari	105.0	109.1	111.6	116.6	118.7	123.6	3.90	4.48	4.13
9	Bhadravathi	106.7	111.4	112.9	116.3	119.4	124.7	4.40	3.01	4.44
10	Dandeli	107.6	112.8	114.4	118.4	121.5	127.0	4.83	3.50	4.53
11	Kalaburagi	106.6	109.5	113.0	119.3	120.7	126.3	2.72	5.58	4.64
12	Hassan	107.9	110.4	113.8	116.5	121.2	126.3	2.32	2.37	4.21
13	Mandya	103.7	108.4	111.8	115.2	117.5	122.3	4.53	3.04	4.09
14	Mangaluru	105.6	109.6	111.3	115.1	117.6	122.7	3.79	3.41	4.34
15	Raichur	107.1	109.8	114.0	118.8	120.8	125.6	2.52	4.21	3.97
16	Tumakuru	107.4	110.8	113.5	118.5	119.7	125.3	3.17	4.41	4.68

Source: 1. Labour Bureau, Shimla, GOI. 2. Directorate of Economics & Statistics, GOK.

Appendix - 1.13 Consumer Price Index Numbers for Industrial Workers at selected centres in Karnataka State CENTRAL SERIES (General Index) Base Year: 2016=100

Year/ Month	Bengaluru	Belagavi	Hubli-Dharwad	Madikeri	Mysuru	Davanagere	Chikmagalore
2020-21	113.2	116.0	115.2	109.2	113.6	121.3	110.6
2021-22	118.5	124.3	122.1	118.3	122.4	126.0	114.7
(January 2022 to November 2022)							
January 2022	119.4	126.8	124.1	122.2	123.8	127.0	117.4
February 2022	119.5	125.5	123.8	121.5	123.9	126.8	116.6
March 2022	119.1	126.3	124.5	121.7	124.7	127.6	117.3
April 2022	121.1	127.9	125.9	123.1	127.1	129.8	117.9
May 2022	123.2	129.9	127.4	125.3	127.5	131.9	120.3
June 2022	123.1	129.3	126.5	125.8	127.0	130.8	119.1
July 2022	124.2	129.1	125.9	124.9	127.7	131.5	120.2
August 2022	124.0	129.8	126.5	124.8	127.8	132.4	121.9
September 2022	125.0	131.7	126.7	127.5	130.9	134.3	123.6
October 2022	125.0	134.8	127.7	129.2	132.0	136.5	125.5
November 2022	124.9	135.7	128.0	129.6	132.5	137.3	125.8

Source: Labour Bureau, Shimla, GOI.

Appendix -1.14 Consumer Price Index Numbers for Industrial Workers at selected centres in Karnataka State. STATE SERIEIS: General Index **Base Year: 2018=100**

Year/ Month	Ballari	Badra- vathi	Dandeli	Kala- buragi	Hassan	Mandya	Manga- luru	Raichur	Tuma- kuru
2020-21	108.2	109.5	110.9	109.0	110.0	107.3	108.0	109.9	109.8
2021-22	115.2	115.4	117.5	116.9	115.8	114.2	114.0	117.2	116.3
(January 2022 to November 2022)									
January 2022	116.0	117.0	119.2	118.7	118.4	115.0	115.6	119.1	117.9
February 2022	117.0	117.3	119.5	118.8	118.4	115.7	116.2	118.8	118.1
March 2022	117.4	117.9	119.9	119.4	119.0	116.1	116.9	119.4	118.6
April 2022	118.7	119.4	121.5	120.7	121.2	117.5	117.6	120.8	119.7
May 2022	120.2	121.1	123.0	122.6	123.0	119.0	119.4	122.8	121.5
June 2022	121.3	122.1	123.7	123.5	123.8	119.8	120.1	124.0	122.5
July 2022	122.0	122.7	124.7	124.4	124.3	120.3	120.8	124.6	123.3
August 2022	122.7	123.4	125.6	124.9	124.9	120.8	121.2	124.8	124.1
September 2022	123.2	124.1	126.1	125.8	125.6	121.6	121.8	125.2	124.9
October 2022	123.5	124.5	126.9	126.5	126.3	122.5	122.3	125.6	125.5
November 2022	123.6	124.7	127.0	126.3	126.3	122.3	122.7	125.6	125.3

Source: Directorate of Economics & Statistics, GOK.

Appendix - 1.15 Consumer Price Index Numbers for Agricultural Labourers at All India and Karnataka **Base Year: 1986-87=100**

	Item	2020		2021		2022		Percentage variation in September over April		
		April	Novem- ber	April	Novem- ber	April	Novem- ber	2020	2021	2022
Karnataka										
i)	Food	1116	1204	1201	1259	1218	1266	7.89	4.83	3.94
ii)	General	1122	1194	1204	1260	1247	1293	6.42	4.65	3.69
All-India										
i)	Food	971	1025	983	1034	1035	1098	5.56	5.19	6.09
ii)	General	1014	1060	1041	1092	1108	1167	4.54	4.90	5.32

Source: Labour Bureau, Shimla, GOI.

Appendix - 1.16 Consumer Price Index Numbers for Agricultural Labourers at All India and Karnataka
Base Year : 1986-87=100

Year/Month	All India		Karnataka	
	Food	General	Food	General
2011-12	602	611	657	649
2012-13	658	672	737	724
2013-14	737	750	836	815
2014-15	778	800	860	863
2015-16	807	835	931	928
2016-17	841	870	1015	1001
2017-18	846	889	1075	1057
2018-19	850	907	1011	1029
2019-20	932	980	1077	1060
2020-21	990	1034	1166	1166
2021-22	1235	1241	1013	1075
(January 2022 to November 2022)				
January 2022	1028	1095	1243	1259
February 2022	1026	1095	1226	1253
March 2022	1025	1098	1214	1246
April 2022	1035	1108	1218	1247
May 2022	1046	1119	1238	1260
June 2022	1052	1125	1238	1261
July 2022	1058	1131	1241	1262
August 2022	1069	1140	1246	1271
September 2022	1079	1149	1251	1275
October 2022	1093	1159	1268	1288
November 2022	1098	1167	1266	1293

Source : Labour Bureau, Shimla, GOI.

Appendix - 1.17 Urban and Rural Retail Price Index Numbers in Karnataka

Year	Urban Retail Price Index Numbers		Rural Retail Price Index Numbers	
	Index	Percentage variation over previous year/month	Index	Percentage variation over previous year/month
Base Year : 1970=100				
2011-12	2161	9.03	3231	10.99
2012-13	2441	12.96	3565	10.34
2013-14	2810	15.12	3923	10.05
2014-15	2996	6.62	4189	6.78
2015-16	3263	8.91	4671	11.50
2016-17	3207	-1.71	4877	4.41
2017-18	3382	5.45	5042	3.38
2018-19	3353	-0.85	5017	-0.49
2019-20	3712	10.69	5247	4.59
2020-21	3997	7.68	5661	7.89
New Base Year: 2018=100				
2021-22	121.00	-	123.04	-
(January 2022 November 2022)				
January 2022	129.38	5.65	124.62	-1.64
February 2022	129.88	0.39	122.97	-1.32
March 2022	130.13	0.19	124.48	1.23
April 2022	130.70	0.44	126.55	1.66
May 2022	131.24	0.41	126.93	0.30
June 2022	131.37	0.10	126.95	0.02
July 2022	133.40	1.55	122.86	-3.22
August 2022	135.58	1.63	122.16	-0.57
September 2022	135.67	0.07	124.38	1.82
October 2022	136.09	0.31	125.16	0.63
November 2022	137.30	0.89	125.25	0.07

Source : Directorate of Economics and Statistics, GOK.

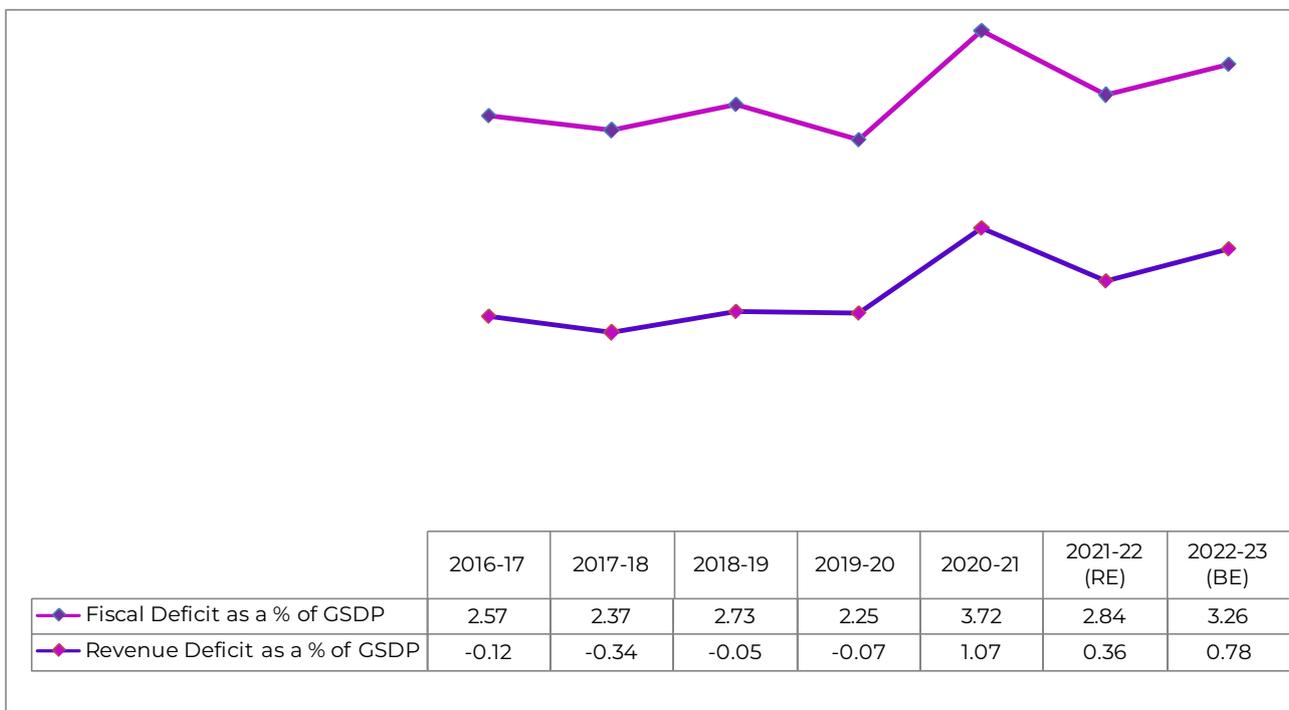
2.1 Introduction

In 2022-23, budget programmes have been formulated for the overall development of the State by achieving higher economic development and maintaining the fiscal discipline. The state has better fiscal condition through prioritizing expenditures as well as improving revenue collections. This has implications for the fiscal position of the state. However, with the increasing government expenditure and declining government revenues, keeping the fiscal deficit at a low level is challenging. However, Karnataka managed to contain the fiscal deficit to 2.84 percent of GSDP in 2021-22(RE). Further, for 2022-23(BE), the fiscal deficit has been targeted at 3.26 percent, which is marginally higher than in the previous year.

2.2 FISCAL CONSOLIDATION

In terms of fiscal consolidation that reflects the extent of fiscal discipline as well as the quality of government expenditures, the state of Karnataka has been in the forefront and has always maintained fiscal prudence as one of its main policy goals. The fiscal consolidation efforts in the state have continued and has ensured all the fiscal parameters are within the stipulated limits of the Karnataka Fiscal Responsibility Act, 2002 (KFRA). Fiscal and revenue deficits for the period 2016-17 to 2022-23(BE) are presented in **Figure 2.1**.

Figure 2.1 Revenue Deficit and Fiscal Deficit as a % to GSDP



Source: Economic Survey 2021-22, Planning Department, GoK and Overview of Budget 2022-23, Finance Department, GoK.

Over the last several years with an exception in 2020-21, the fiscal deficit could be maintained within 3% of GSDP as mandated by the KFRA and managed by the Government of India. The state has budgeted the fiscal deficit at 3.26% of GSDP in 2022-23 (BE) in spite of the relaxation of this limit to 4% of GSDP following the pandemic (as suggested by the 15th Finance Commission). For 2022-23 and for 2023-24, the 15th Finance Commission suggests a fiscal deficit target of 3.5 and 3 percent, respectively, for the state governments. As the fiscal deficit is already below 3.5 percent, achieving these targets in the next two years may not be difficult for the state of Karnataka. Widening on the revenue account from surplus to deficit is not substantial. However, this is different from the suggested surplus on the revenue account by the states as per the 'indicative' roadmap suggested by the 15th Finance Commission (page. 373, Table 12.4, Vol.1, 15th Finance Commission).

2.3 KARNATAKA vis-à-vis OTHER STATES

In the past few years, the Karnataka's major fiscal parameters fared well when compared with the 'all states' average. This is reflected in the trends in various fiscal parameters presented in Table 2.1. The State has been maintaining revenue surplus until the onset of Covid-19. Further, the State has a capital outlay of 93.12% in the GFD as compared to deterioration to 79.73% for all States average in 2019-20(Accounts). These numbers suggest that almost all of fiscal deficit is channeled towards government Capital Expenditure, which is the crux of the KFRA and this is expected to help in achieving rapid economic growth in the state. However, Karnataka could face a severe task of reverting to surpluses on the revenue account that was the highlight of the state fiscal situation so as to enhance infrastructure investments in the state. Other parameters such as ratio of State Tax Revenue in the Revenue Expenditure and Non-development Expenditure as ratio of Aggregate Disbursements all suggests that Karnataka is in a better position compared to 'all states'.

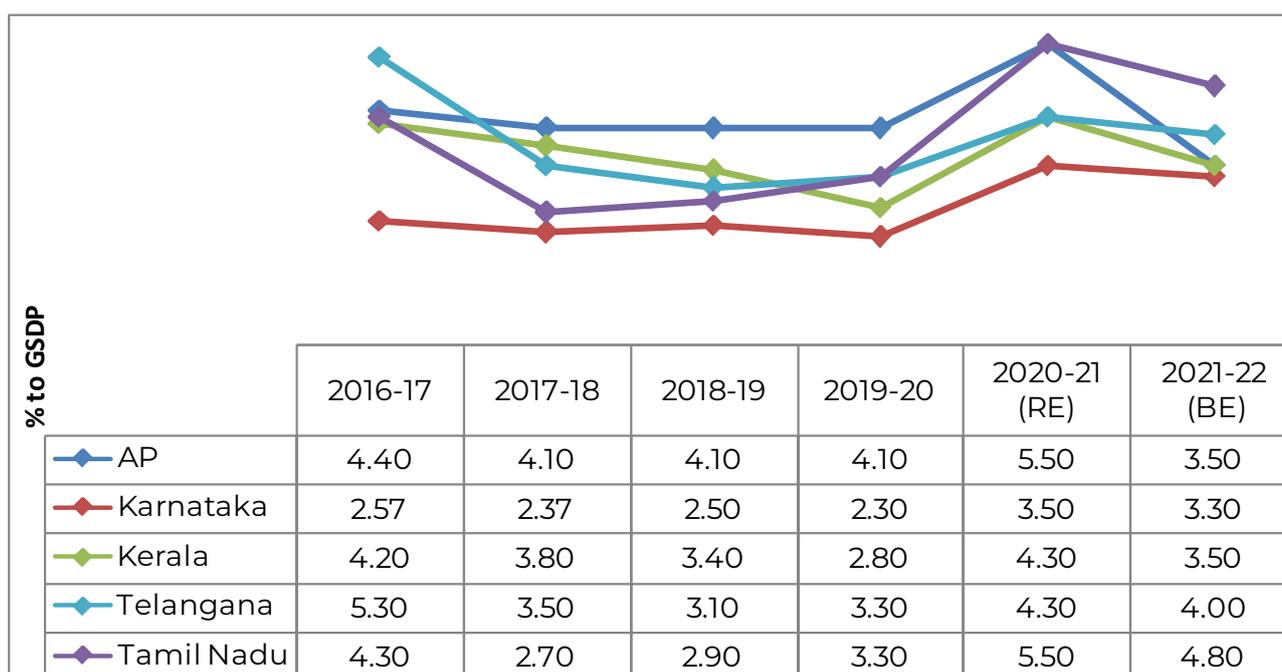
Table 2.1: Major Fiscal Indicators of Karnataka

Fiscal Indicators	2017-18 (Accounts)		2018-19 (Accounts)		2019-20 (Accounts)		2020-21 (Revised Estimates)		2021- 22 (Budget Estimates)	
	KAR	All States	KAR	All States	KAR	All States	KAR	All States	KAR	All States
RD/GFD	-14.52	4.59	-1.77	3.84	-3.11	23.15	33.41	42.41	25.54	14.39
Capital Outlay/ GFD	98.60	95.89	90.16	95.15	93.12	79.73	63.69	54.13	69.81	81.48
Non-dev. Expenditure/ Aggregate Disbursement	26.91	28.20	20.30	28.30	22.20	28.80	26.50	28.00	27.50	27.90
STR/RE	65.54	56.00	63.50	54.30	63.20	53.20	57.30	45.60	63.90	52.70

RD = Revenue Deficit, GFD = Gross Fiscal Deficit, STR =State Tax Revenue, RE = Revenue Expenditure
Source: Economic Survey 2021-22, Planning Department, GoK and RBI-Study of budgets, 2021-22, Statements-1 and 4.

When the fiscal situation of Karnataka is compared with other southern states, which are largely comparable in terms of strength, structure, inter-connectedness as well as proximity of the economies, it is clear that Karnataka has performed better in managing its fiscal position (Figure 2.2). Among the five southern states, Karnataka registered lowest fiscal deficit. In 2021-22(BE), Karnataka recorded the lowest fiscal deficit (3.30%) among the southern states with Andhra Pradesh (3.50%), Kerala (3.50%), Telangana (4.00%) and Tamil Nadu (4.80%) having the fiscal deficits at a higher level compared to Karnataka.

Figure 2.2: Karnataka's Fiscal Deficit (as a % of GSDP) Compared with the Southern States



Source: Economic Survey 2021-22 Planning Department, GoK and RBI Report on State Finances: A Study of Budgets of 2021-22, Table II.5.

The latest data on net borrowings of the state also suggest that among the southern states, Karnataka has a net market borrowings of Rs. 3500.00 crores as on October 2022 (RBI Bulletin, December 20th 2022) (with Andhra Pradesh, Tamil Nadu, Telangana, and Kerala borrowing Rs. 36155.00 crores, Rs. 26153.00 crores, Rs. 18485.00 crores and Rs. 4436.00 crores respectively). While some part of the reason for such lower market borrowing could be due to revenues (especially the central transfers of both direct and indirect taxes) exceeding the Budget estimates, the efforts on rationalization of public expenditures also could have helped to some extent.

2.4 STATE FINANCES

Karnataka has been in the forefront in terms of adhering to the fiscal consolidation efforts as mandated by the FRA. To achieve this, similar to the Centre's Expenditure Management Commission, the state had its own Expenditure Reforms Commission. Based on the Commission's recommendations, by and large, the state has been protecting the targets on the capital outlays even when there are some distresses on the revenue side. In other words, the state has been trying not to resort to compression of capital outlays even when there are revenue shortages compared to budgeted numbers. In addition to expenditure reforms, the state has also undertaken tax reforms and revamped the tax

administration, which seems to have yielded results in terms of higher revenue receipts. This may be noted in Table 2.2 where except for 2020-21, the revenue receipts have been increasing every year. As a ratio GSDP, again, the state average numbers of about 11 percent. Unlike many other states, Karnataka also generates significant capital receipts (net) through implementing Expenditure Reforms Commission as well as through restructuring of public sector undertakings. The share of net capital receipts that are below 3 percent in the past four years is expected to jump to 4.05 percent in 2021-22 and 4 percent in 2022-23.

In terms of expenditures, there is a decline in the revenue expenditure from 10.75 percent in 2017-18 to 9.76 percent by 2020-21. This compression in revenue expenditure seems to help in retaining the capital expenditure above 2.00 percent of GSDP, thus, suggesting no compression even during the revenue shock period. Such fiscal consolidation framework augurs well for the state in order to double the state's income in coming 4 to 5 years.

Table 2.2: Receipts and expenditure of Karnataka

(Rs. crore)

Items/ Years	2017-18 (A/Cs)	2018-19 (A/Cs)	2019-20 (A/Cs)	2020-21 (A/Cs)	2021-22 (RE)	2022-23 (BE)
Revenue receipts	146999.65	164978.66	175442.79	156716.40	189579.26	189887.54
Revenue expenditure	142482.33	164299.85	174257.40	176053.91	195814.47	204586.68
Capital receipts(net)	35380.85	42405.05	42907.18	71252.65	69729.72	75486.83
Capital Disbursements	39278.14	42812.17	43468.42	51991.02	55430.47	60133.13
Capital outlay (outside the revenue account)	30666.76	34659.32	35529.44	45406.05	39481.98	43572.65
% of GSDP						
Revenue receipts	11.09	11.72	10.33	8.69	11.01	10.07
Revenue Expenditure	10.75	11.67	10.26	9.76	11.38	10.85
Capital receipts (net)	2.67	3.01	2.53	3.95	4.05	4.00
Capital Disbursements	3.00	3.04	2.56	2.52	2.29	2.31
Capital outlay (outside the revenue account)	2.31	2.46	2.09	3.28	3.22	3.19

Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Annual Financial Statement 2022-23 (iii) Medium Term Fiscal Plan (2022-26), Finance Department, GoK (iv) Volume I of Budget Documents 2022-23, Finance Department GoK

Note: (a) Capital Receipts (net) does not include (i) Ways and Means and Market Borrowings but include Contingency Fund (net) and Public Account (net).

(b) Capital Disbursement does not include Ways and Means and Market Borrowings

Revenue Receipts and its Composition:

As may be noted in Table 2.3, the major component of the State's revenue receipts is the own tax collections. The annual average share of the state's own tax in the last five years is about 7.22 percent. However, serious cause for concern is the declining share of central taxes, which has been declining continuously from 2.42 percent in 2017-18 to 1.58 percent in 2022-23. The trend is expected to be similar when we look at the grants from the centre which has declined from 1.17 percent in 2017-18 to as low as 0.90 percent in 2020-21. The other source of revenue receipts, i.e., non-tax revenue, has been sticky at around 0.5 percent. This shows constraints that the government faces in mobilizing additional non-tax revenues. Any progress on the proposed asset monetization policy in the state should help in improving more non-tax revenues in the coming years.

Table 2.3: Composition of revenue receipts (% of GSDP)

Year	2017-18 (A/Cs)	2018-19 (A/Cs)	2019-20 (A/Cs)	2020-21 (A/Cs)	2021-22 (RE)	2022-23 (BE)
State taxes	7.12	7.64	6.88	6.83	7.95	6.94
Share of central taxes	2.42	2.55	1.82	1.20	1.58	1.58
Grants from Centre	1.17	1.05	1.18	0.90	0.97	0.97
Non-Tax Revenue	0.49	0.48	0.45	0.44	0.52	0.58

Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Medium Term Fiscal Plan (2022-26), Finance Department, GoK.

Finance Commission Grants

One of the important and serious challenges for the state of Karnataka during the 15th Finance Commission period is the decline in the share of state in the divisible pool of central taxes. It has declined from 1.98 percent during the 14th Finance Commission period to 1.5 percent in 2020-21 and also during the five-year period of the 15th Finance Commission (i.e., 2021-26). Based on the 15th Finance Commission's own estimates, Karnataka could see the decline in central tax transfers by about 24.5 percent between the two Commission's recommendations, which is going to pose a severe challenge for the state to cope up in the next five years.

Table 2.4: Finance Commission Grants Recommended for all states and Karnataka (for 2021-26) (Rs. crore)

Grants	All states	Karnataka	Karnataka Share in Total (in %)
Revenue Deficit grants	294514.00	1631.00	0.6
Grants for Local Bodies	436361.00	21877.00	5.0
Sector-specific grants	129987.00	4560.00	3.5
Grants under disaster management	122601.00	4369.00	3.6
State-specific grants	49599.00	6000.00	12.1
Total	1033062.00	38437.00	3.7

Source: 15th Finance Commission Report.

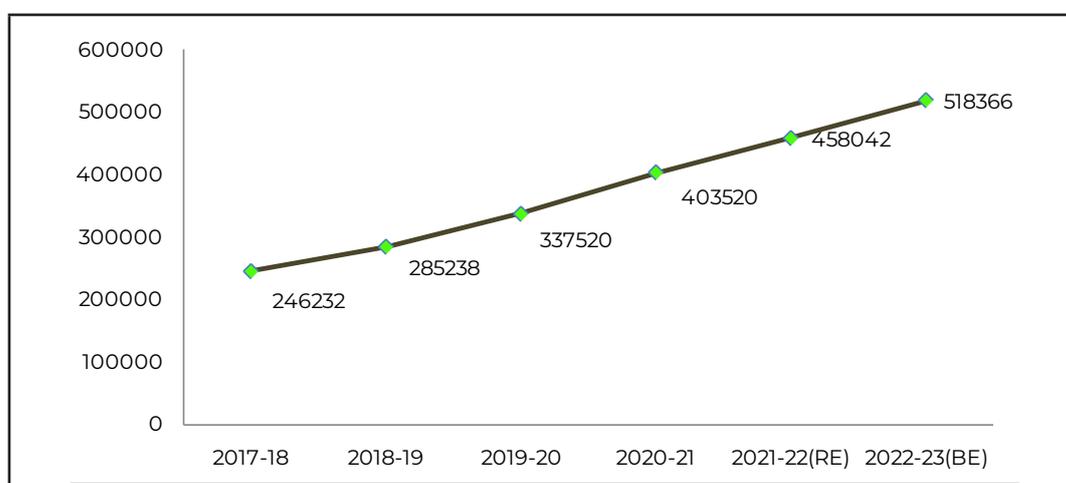
It may be noted in **Table 2.4**, the overall share of the Finance Commission grants for Karnataka is about 3.7 percent which is reduction of over one percentage point compared to 14th Finance Commission, which was at 4.71 percent.

Outstanding Liabilities

Similar to the trends at the Union Government, the states are also expected to exceed their targets on outstanding liabilities as set by their respective state legislations. In the case of Karnataka also, as presented in the Medium-Term Fiscal Plan of 2022-26, the outstanding liabilities (as percent of GSDP) is expected to have increased by over 5 percentage points between 2020-21 and 2022-23 (**Figure 2.4**) and in terms of levels, it is expected to increase by Rs 1.14 lakh crore in the same period (**Figure 2.3**).

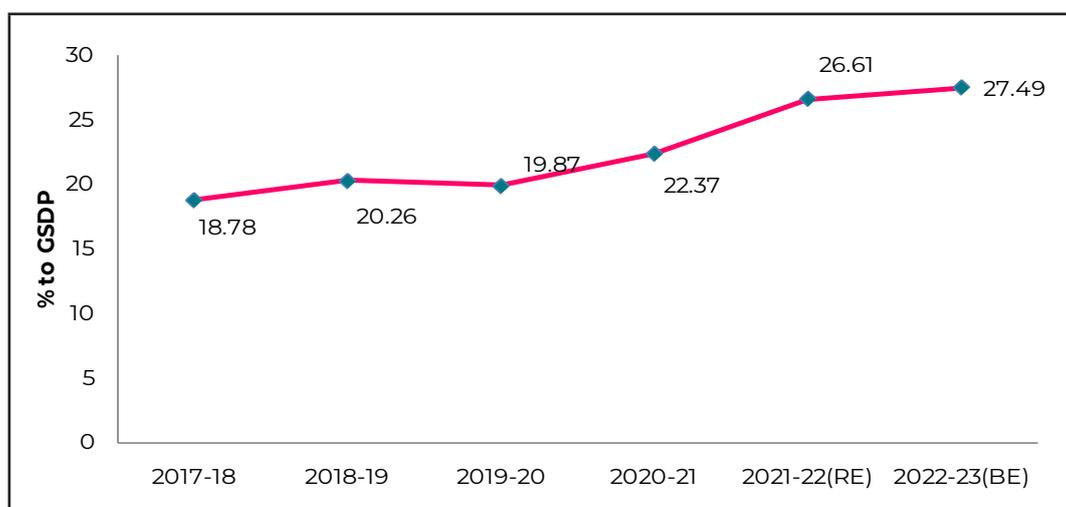
Figure 2.3: Total liabilities of State Government

(Rs. Crore)



Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Medium Term Fiscal Plan (2022-26), Finance Department, GoK

Figure 2.4: Total liabilities (as a % to GSDP)



Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Medium Term Fiscal Plan (2022-26), Finance Department, GoK

Further, the Medium-Term Fiscal Plan 2022-26 suggest that the outstanding liabilities to stabilize at 26.95 percent by 2025-26. This is almost similar to what the 15th Finance Commission estimated for the state. The Commission estimates that if the state follows the fiscal deficit targets as suggested by the Commission, the outstanding liabilities is expected to be at 27.1 percent even by 2025-26, which is the last year of the Finance Commission period. Even to achieve this, the state needs to bring down the fiscal deficit to 3 percent for the period 2023-26.

2.5. BUDGETARY DEVELOPMENTS IN 2022-23

2.5.1 Main trends

Revenue receipts largely follow the extent of economic activities. With the recovery in most of the economic activities from 2021-22, the state is in a position to improve its revenue collection capacity. However, as may be noted in Table 2.5, volatility in GSDP growth appear to affect the composition of receipts while broadly retaining the overall revenue growth between year of economic slump as well as in the year of recovery. While the growth rate of revenue receipts is 0.16 percent in 2022-23, the growth of capital receipts for the same reference year is 8.26 percent and the overall receipts are expected to increase by 2.34 percent. In terms of shares, the share of revenue and capital receipts on total is 71.56 and 28.44 percent.

In the case of expenditures, Revenue expenditure is expected to increase by 4.48 percent in 2022-23, capital expenditure is expected to increase by 8.48 percent and the overall expenditure is expected to increase by 5.36 percent.

Table 2.5: Overall Budgetary Position

(Rs. crore)

	Receipts and Disbursements	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)	% variation in 2022-23 over 2021-22
A.	Receipts				
1	Revenue Receipts	156716.41	189579.27	189887.54	0.16
2	Capital Receipts	71252.65	69729.72	75486.83	8.26
	Total A: (1+2)	227969.06	259308.99	265374.37	2.34
B.	Disbursements				
1	Revenue Expenditure	176053.91	195814.47	204586.68	4.48
2	Capital Disbursements	51991.02	55430.47	60133.13	8.48
	Total B :(1+2)	228044.93	251244.94	264719.81	5.36

A/Cs: Accounts, R.E.: Revised Estimates, B.E.: Budget Estimates

Note (i) Ways and means and Market Borrowings have not been included in the Capital receipts and expenditure. (ii) Public Account Net and Contingency Fund included in the Capital Receipts.

Sources: Annual Financial Statement 2022-23 and Volume I of Budget documents 2022-23.

Table 2.6 provides the details about some of the crucial indicators between 2021-22 (RE) and 2022-23 (BE). This has both aggregate revenue and expenditure indicators for different classification. The table also provides both per capita revenue receipts as well as per capita expenditures. The per capita revenue receipts (Rs. 26484) being more than

the per capita developmental expenditure (Rs.24171) for 2022-23 suggest that gap being used for financing non-developmental expenditures such as debt servicing. Indeed, the share of developmental expenditure in total expenditure has shown an increasing trend from 65.21 percent in 2021-22(RE) to 65.47 percent in 2022-23(BE).

Table 2.6 : Important Budgetary Indicators: Karnataka (Rs. crore)

Sl. No.	Indicator	Unit	2021-22 (R.E)	2022-23 (B.E)
1	Aggregate Receipts(Revenue + Capital)	Rs. Crore	259308.99	265374.37
2	Revenue Receipts	Rs. Crore	189579.27	189887.54
3	State's Own Tax Revenue	Rs. Crore	136775.75	131882.75
4	Per Capita State's Own Tax Revenue	Rupees	19346	18394
5	Sales Tax / VAT Collection	Rs. Crore	16791.00	17640.00
6	Share of Sales Tax /VAT in the State's Own Tax Revenue	%	9.37	13.90
7	Non-Tax Revenue including Grants from the Centre	Rs. Crore	25669.00	28222.00
8	Share of Non-Tax Revenue in Revenue Receipts	%	13.54	14.86
9	Debt Receipts	Rs. Crore	67331.82	72000.46
10	Share of Debts Receipts in Aggregate Receipts	%	25.97	27.13
11	Per Capita Revenue Receipts	Rupees	26815	26484
12	Aggregate Expenditure (Revenue + Capital)	Rs. Crore	251244.94	264719.81
13	Developmental Expenditure	Rs. Crore	163825.48	173308.83
14	Per Capita Development Expenditure	Rupees	23172	24171
15	Share of Developmental Expenditure in Total Expenditure	%	65.21	65.47

R.E.: Revised Estimates, B.E.: Budget Estimates

Note: Per capita are calculated on projected population of 2020 and 2021

Source: Annual Financial Statement 2022-23, Finance Department, GoK

2.5.2 Receipts

2.5.2.1 Revenue Receipts

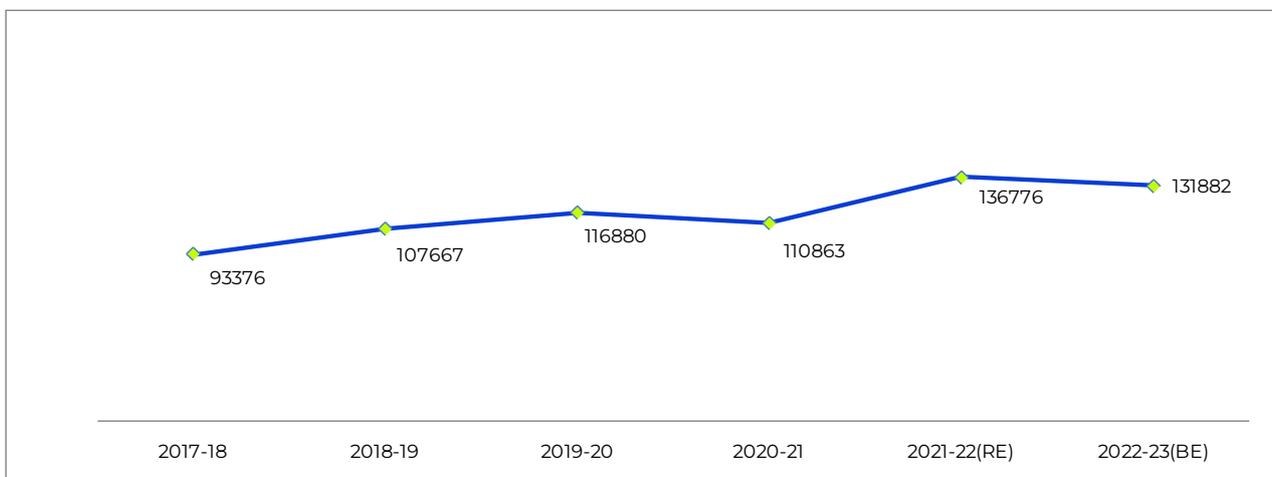
By definition, total revenue receipts include four major components: own tax revenue, non-tax revenue, devolution from the Central Government and Grants-in- Aid & contributions. The large chunk of revenue receipts is coming from state's own tax revenue which is estimated to be 69.45 percent in 2022-23(BE). The tax devolution from Government of India constitutes 15.68 percent of revenue receipts. The lowest contributor to the revenue receipts is coming from the non-tax revenue (5.76 percent). The rest 9.10 percent of the revenue receipts is in the form of Grants - in - aid from Central Government. The tax

devolution from Government of India is expected to increase by 9.76 percent in 2022-23 (BE) over 2021-22 (RE) while the Grants - in - aid is expected to increase by 3.67 percent during the same period.

Tax Revenues and Tax effort: The State's own tax revenues (SOTR), which is identified as a crucial parameter to understand the fiscal strength of the State, is expected to increase from Rs. 110863.00 crore in 2020-21 to Rs.136776.00 crore in 2021-22(RE). While it could reflect the efficiency of the tax administration in the state, looking at the tax effort data, which is showing a declining trend, as shown in **Figure 2.5**, do raise concern with regard to tax administration and its efficiency.

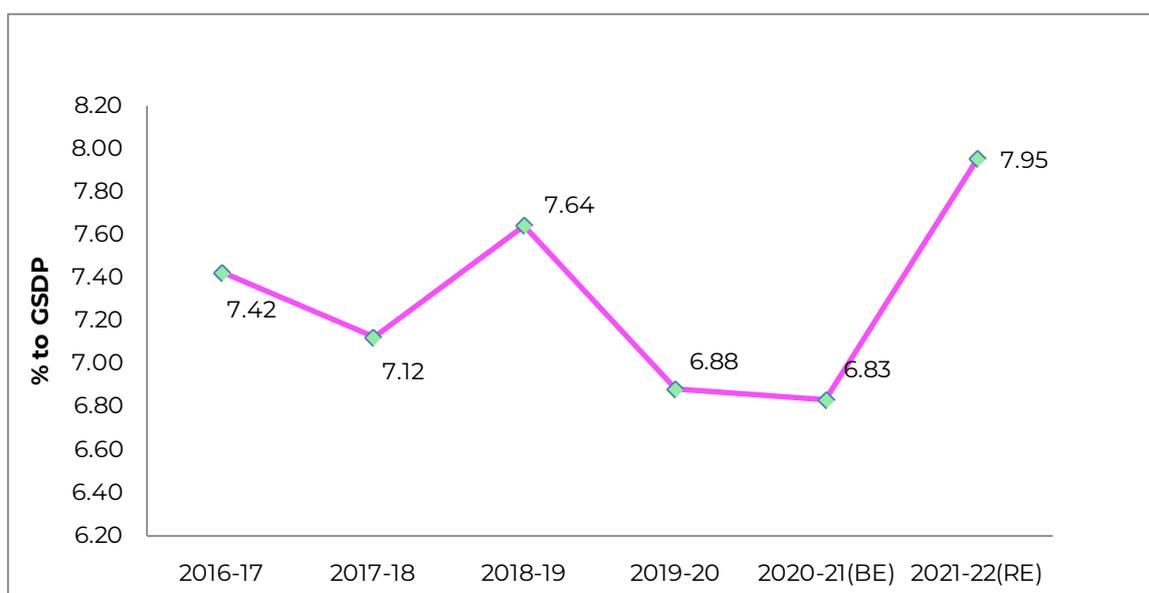
Figure 2.5 State's Own Tax Revenue

(Rs. crore)



Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Medium Term Fiscal Plan (2022- 26), Finance Department, GoK

Figure 2.6: Tax-GSDP Ratio



Source: (i) Economic Survey 2021-22, Planning Department, GoK (ii) Medium Term Fiscal Plan (2022- 26), Finance Department, GoK.

With respect to composition of the total revenue receipts, while there are various sources, as shown in Figure 2.5, the State's own tax revenue has been performing very well. The total revenue receipts (consisting of taxes on income & expenditure, entry tax, property and capital transactions, VAT, sale of goods, commodities & services, State excise, motor vehicle taxes and the State's share in central taxes) is estimated at Rs.189887.53 lakh crore in 2022-23(BE) as against Rs.189579.26 lakh crore in 2021-22(RE). Goods and Service Tax (GST) is the main source of indirect tax revenue comprising little over a quarter of Revenue Receipts in 2022-23(BE).

The State's share in central taxes is (as per the Union Budget) anticipated to increase from Rs.27134.94 crore in 2021-22(RE) to Rs.29783.21 crore in 2022-23(BE), a growth of 9.76 percent in 2022-23(BE) over 2021-22(RE).

Non - tax Revenues: Unlike at all India level, at the state level, the role of non-tax revenue in the overall revenues is expected to be lower. The non-tax revenues, which is largely through the usage of social, economic and general services as well as a small component of interest and dividends, is expected to increase from Rs. 9000.00 crore in 2021-22(RE) to Rs. 10940.56 crore in 2022-23(BE). However, the share of these revenues in the total revenues has been declining over the years and is currently at about 5.00 percent. This suggest that there are increasing implicit subsidies in the form of un-recovered user charges across the services. And this could pose serious challenge to the fiscal strength of the state. Any effort to reduce these subsidies could be beneficial for increasing social sector expenditure at the state. For a state like Karnataka with non-tax revenue being just about one percent of GSDP, it suggests a substantially low recovery costs, user charges, fees, etc. Here it is necessary to relook at the recommendations of the Expenditure Reforms Commission and implement in order to improve this source of revenues.

2.5.2.2 Capital Receipts

It is the capital receipts that have substituted the decline in the tax revenue receipts. Here capital receipts could come in the form of loans from Central Government, internal debt management (excluding ways & means advances and market loans), public accounts (net), recoveries of loans & advances, contingency funds (net) and miscellaneous capital receipts. The state has budgeted an increase in capital receipts from Rs. 69729.72 crore in 2021-22(RE) to Rs. 75486.84 crore in 2022-23(BE), which is higher by 8.26 percent compared to 2021-22(RE). The above Revenue and Capital Receipts are given in **Table 2.7**.

Table 2.7: Revenue and Capital Receipts, Karnataka 2020-21 to 2022-23 (Rs. Crore)

	Category of Receipts	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)	Percent Variation 2022-23 over 2021-22	2020-21 (A\Cs)	2021-22 (R.E)	2022-23 (B.E)	
I.	Revenue Receipts							% to Total Revenue Receipts	
A.	State's Tax Revenue (i+ii+iii+iv+v)	132535.90	163910.65	161665.96	-1.37	84.57	86.46	85.14	
(i)	Taxes on Income and Expenditure	1127.09	1027.00	1150.00	11.98	0.72	0.54	0.61	

	Category of Receipts	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)	Percent Variation 2022-23 over 2021-22	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)
(ii)	Taxes on Property & Capital Transactions of which	58235.27	64534.45	72512.75	12.36	37.16	34.04	38.19
	(a) Sales Tax / VAT	16027.59	16791.00	17640.00	5.06	10.23	8.86	9.29
	(b) Taxes on vehicles	5606.99	75144.80	8006.68	6.55	3.58	3.96	4.22
	(c) State Excise	23332.09	24580.00	29000.00	17.98	14.89	12.97	15.27
	(d) Taxes on Goods & Passengers	16.15				0.01	0.00	0.00
	(e) Others	13252.44	15648.65	17866.07	14.17	8.46	8.25	9.17
(iii)	GST Compensation	13789.25	25267.26	5000.00	-80.21	8.80	13.33	2.63
(iv)	State Goods and Service Tax	37711.18	45947.00	53220.00	15.83	24.06	24.24	28.03
	State's Own Tax Revenue (i)+(ii)+(iii)+(iv)	110862.79	136775.71	131882.75	-3.58	70.74	72.15	69.45
v)	Tax Devolution from Centre	21673.11	27134.94	29783.21	9.76	13.83	14.31	15.68
B.	Non-tax Revenues	7893.84	9000.00	10940.56	21.56	5.04	4.75	5.76
C.	Grants-in-aid from Central Government (excl. GST compensation)	16287.00	16669.00	17281.00	3.67	10.39	8.79	9.10
	Total I: Revenue Receipts (A+B+C)	156716.41	189579.26	189887.53	0.16			
II.	Capital Receipts				% to total Capital Receipts			
(i)	Loans from Govt. of India	14114.08	2231.82	3089.36	38.42	19.81	3.20	4.09
(ii)	Internal Debt (Net W & M&MB)	63313.86	63600.00	67911.00	6.78	88.86	91.21	89.96
(iii)	Public A/c (Net)	-6490.38	3347.06	4397.08	31.37	-9.11	4.80	5.82
(iv)	Recovery of Loans & Advances	269.87	90.84	71.40	-21.40	0.38	0.13	0.09

	Category of Receipts	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)	Percent Variation 2022-23 over 2021-22	2020-21 (A/Cs)	2021-22 (R.E)	2022-23 (B.E)
(v)	Contingency Fund (Net)	0.00	420.00	0.00	0.00	0.00	0.60	0.00
(vi)	Misc. Capital Receipts	45.23	40.00	18.00	-55.00	0.06	0.06	0.02
	Total II: Capital Receipts (i) to (vi)	71252.66	69729.72	75486.84	8.26			
	AGGREGATE RECEIPTS: I+II	227969.07	259308.98	265374.37	2.34			
	CONSOLIDATED FUND OF RECEIPTS	241559.45	257041.92	261977.40	1.92			
	Total Tax Revenue as per cent of Aggregate Receipts	58.14	63.21	60.92				

A/Cs: Accounts, RE: Revised Estimates. BE: Budget Estimates,
W & M = Ways & Means, MB =Market Borrowings

Source: Annual Financial Statement 2022-23; Volume I of 2022-23 Budget Documents, Finance Department, GoK

2.5.3 Trends in Expenditures

As may be noted in **Table 2.8**, the Budget for 2022-23 has tried to revert back to pre-pandemic levels in terms of expenditures, as ratio to GSDP, such as developmental and capital expenditures. The developmental expenditure that has seen a dip to 8.99 percent in 2020-21 has been budgeted to increase to 9.19 percent. Similar trend is expected in other services such as social and general services. However, the rise in interest payments from 1.22 percent in 2020-21 to 1.56 percent in 2022-23 is a cause for concern. With the increasing outstanding debt from 21.35 percent to 26.64 percent in the same period only resulting further rise in the interest payment burden for the state. Similar trend is expected in the wage bill and pensions as well. This is expected to push-up the revenue expenditure which could suggest the future vulnerability of the state fiscal position. One silver lining in all these expenditures is that state could ring-fence the capital expenditure pattern from the pandemic shock and continues to ensure at least 2.00 percent every year. But to meet the FRA limits, there is a need to further enhance these expenditures to over 3.00 percent in the medium term.

2.5.3.1 Functional Categories of Expenditure

In terms of various types of expenditures by the government, they are divided into three functional categories namely General, Social and Economic and this forms the basis

for allocating resources as per the broad objectives of the governments. The composition of the functional categories of expenditure (Table 2.8) reveal that the government focuses on social services covering the sectors such as education, health, housing, water supply etc. For the year 2022-23, Karnataka has budgeted to spend 4.71 percent of its GSDP on social services while its spending proposal on economic and general services are 4.30 percent and 3.83 percent, respectively. However, as a percentage of GSDP, there seems to be decline in the expenditure on economic services between 2020-21 and 2022-23 (BE) while the expenditure on general and social services has increased in the same period.

Table 2.8 : Expenditure Indicators in Karnataka (% of GSDP)

Particulars	2020-21 (Accounts)	2021-22 (RE)	2022-23 (BE)
Revenue Receipts	8.69	11.01	10.07
Revenue Expenditure (RE)	9.76	11.38	10.85
Development Expenditure	8.99	9.52	9.19
Social Services	4.06	4.95	4.71
Economic Services	4.78	4.40	4.30
General Services	3.12	3.95	3.83
Interest Payments	1.22	1.58	1.56
Wage Bill	1.77	2.23	2.19
Pensions	1.05	1.36	1.27
Capital Outlay (Outside the revenue Account)	3.28	3.22	3.19
Total Expenditure (RE+CE)	12.28	13.67	13.16
Outstanding Debt	21.35	25.60	26.64
Total Consolidated Fund	13.04	14.71	14.09

Source: Annual Financial Statement 2022-23; Volume I of 2022-23 Budget Documents, Medium Term Fiscal Plan 2022-26, Finance Department, GoK,

2.5.3.2 Expenditure Highlights: 2022-23

In this section, disaggregated information on development and non-development expenditures at the sectoral level is discussed and the same is presented in **Table 2.9**.

Between 2021-22(RE) and 2022-23(BE), the overall developmental expenditure as portion to total expenditure appears to have increased from 67.51 percent to 67.77 percent. Since the pandemic, with the increased pressure on the health care services, the overall expenditure on social services within the development expenditure has increased from 46.03 percent in 2020-21 to 52.31 per cent in 2022-23 (BE). Overall, the social services expenditure is expected to increase by 4.18 percent between 2021-22(RE) and 2022-23(BE). On the other hand, expenditure on economic services is expected to increase by 7.61 percent for the same reference period. In terms of shares, within that, the share of Agriculture & Allied Services appears to increase from 10.89 percent to 11.89 percent.

As discussed earlier, increase in the share of non-development expenditure, which is expected to increase by 4.53 percent between 2021-22(RE) and 2022-23(BE) could pose significant challenge for fiscal strength in the coming years. And this increase has largely been contributed by increase in interest payments as well as wage and pension bills, which are only expected to increase due to larger debt situation in the medium term. The servicing of debt is expected to increase by 7.66 percent in 2022-23(BE).

Table 2.9: Trends in Key Expenditure Components**(Rs. crore)**

	Category of Expenditure	2020-21 (A/C)	%*	2021-22 (RE)	%*	2022-23 (BE)	%*	Percent Variation (2022-23 over 2021-22)
I	Developmental Expenditure							
A	Economic Services of which	87553.29	53.97	76807.02	46.88	82649.45	47.69	7.61
1	Agriculture & Allied Services	19094.19	11.77	17837.28	10.89	20611.71	11.89	15.55
2	Rural Development	9144.02	5.64	9159.98	5.59	9202.05	5.31	0.46
3	General Economic Services	5257.25	3.24	3807.20	2.32	4524.57	2.61	18.84
4	Water & Power Development	34895.26	21.51	32865.62	20.06	33017.20	19.05	0.46
5	Industry and Minerals	3382.74	2.09	2628.60	1.60	2681.37	1.55	2.01
6	Transport and Communication	15561.91	9.59	12281.68	7.50	12104.61	6.98	-1.44
7	Others	217.92	0.14	253.67	0.15	250.31	0.14	-1.32
B	Social Services of which	74665.71	46.03	87018.41		90659.35	52.31	4.18
8	Education, Sports, Art and Culture	25483.36	15.53	29607.13	18.07	32018.20	18.47	8.14
9	Medical & Public Health, Family Welfare, Water supply & Sanitation	17025.90	10.50	22816.77	13.93	22763.47	13.13	-0.23
10	Social Security & Welfare Including SC / ST/OBCs/ Minorities Welfare	17891.04	11.03	19020.24	11.61	21602.79	12.46	13.58
11	Housing and Urban Development	8827.87	5.44	8993.51	5.49	9844.42	5.68	9.46
12	Information and Publicity	200.39	0.12	227.72	0.14	210.37	0.12	-7.62
13	Others	5237.15	3.23	6353.04	3.88	4220.10	2.44	-33.57

	Category of Expenditure	2020-21 (A/C)	%*	2021-22 (RE)	%*	2022-23 (BE)	%*	Percent Variation (2022-23 over 2021-22)
	Total Developmental Exp. (A+B)	162219.00		163825.43		173308.80		5.79
II	Non-Developmental Expenditure							
14	General services	55017.93	85.41	67932.74	86.16	72166.16	87.57	6.23
15	Organs of the State	1630.94	2.47	1992.14	2.52	2108.98	2.56	5.87
16	Fiscal Services	2206.07	3.35	2182.21	2.76	2278.79	2.77	4.43
17	Interest payment & servicing of debts	23620.39	35.88	29160.95	36.98	31394.61	38.10	7.66
18	Administrative Services	8497.89	12.90	10166.87	12.89	10818.22	13.13	6.41
19	Pension & Miscellaneous General Services	19064.64	28.96	23547.56	29.86	24172.84	29.33	2.66
20	Compensation & Assignment to Local Bodies and PRIs	5681.04	8.65	6404.27	8.12	6050.54	7.34	-5.52
21	Capital Outlay on Police	365.76	0.55	147.00	0.18	354.56	0.43	141.20
22	Capital Outlay on PWD	838.53	1.27	736.01	0.93	1038.16	1.26	41.05
23	Internal debt of the State Govt	9610.60	14.60	13059.89	16.56	12632.70	15.33	-3.27
24	Discharge of Internal Debt (Net)	2510.60	3.81	2559.82	3.24	2632.54	3.19	2.84
25	Repayment of Loans to G.O.I.	1405.21	2.13	1504.89	1.90	1546.00	1.88	2.73
26	Loans & Advances to Govt. servants	4.80		17.68	0.02	15.68	0.02	-11.31
27	Ways & Means			500.00	0.63	0.10		-99.98
28	Market Loans	7100.00	10.78	1000.00	12.68	1000.00	12.13	
	Total non-developmental Expenditure	65825.87		78839.40		82410.92		4.53
	Aggregate Expenditure I + II	228044.87		242664.83		255719.72		5.38
29	Developmental Exp as % of total Exp	71.13		67.51		67.77		

	Category of Expenditure	2020-21 (A/C)	%*	2021-22 (RE)	%*	2022-23 (BE)	%*	Percent Variation (2022-23 over 2021-22)
30	Per Capita Development Expenditure (Rs)	23273		23171		24171		4.31
	Consolidated Fund	235144.87		253164.90		265719.88		4.96

A/Cs: Accounts, R.E: Revised Estimates, B.E.: Budget Estimates

Note: Per capita is based on the projected population of 2020(6.97cr,) 2021(7.07cr) and 2022(7.17cr).

* Figures under developmental expenditure are percentages to the total developmental expenditure and figures under non-developmental expenditure are percentages to the total non-developmental expenditure

Source: Annual Financial Statement 2022-23, Finance Department, GoK (ii)

Volume I of Budget Documents 2022-23, Finance Department GoK.

2.5.3.3 Central Grants

Historically central grants have been major component of state budgets. The composition of these grants is broadly under three categories. (i) Grants for Centrally Sponsored Schemes (CSS) (ii) Finance Commission Grants for Rural Local Bodies/Urban Local Bodies/ State Disaster Response Fund. (iii) Other Transfers/Grants to State Legislatures (including Grants towards National Disaster Response Fund and Compensation for loss of revenue arising out of implementation of GST). With the increase in the states' share in the overall devolution from 32 percent to 42 percent since the 14th Finance Commission period, and with the restricting of Centrally Sponsored Schemes, there is generally a reduction in the transfer of central grants to the states. For the state of Karnataka, such grants are expected to decline from 19.19 percent of total revenue receipts in 2020-21(RE) to 11.73 percent in 2022-23 (BE). Compositionally the decline is sharp in 'Other Transfers' (Table 2.10).

Table 2.10: Trends in Central Grants

(Rs. crore)

Sl. No.	Items	2020-21 (Accounts)	2021-22 (RE)	2022-23 (BE)
1	FC Grants	5557.00 (3.55)	6522.00 (3.44)	5058.00 (2.66)
2	Centrally Sponsored Schemes	9851.88 (6.29)	8514.61 (4.49)	11721.01 (6.17)
3	Other Transfers/Grants to State Legislatures	14667.03 (9.36)	26899.26 (14.19)	5502.00 (2.90)
4	Total Grants	30075.91 (19.19)	41935.87 (22.12)	22281.01 (11.73)
5	Total Revenue Receipts	156716.40	189579.26	189887.54

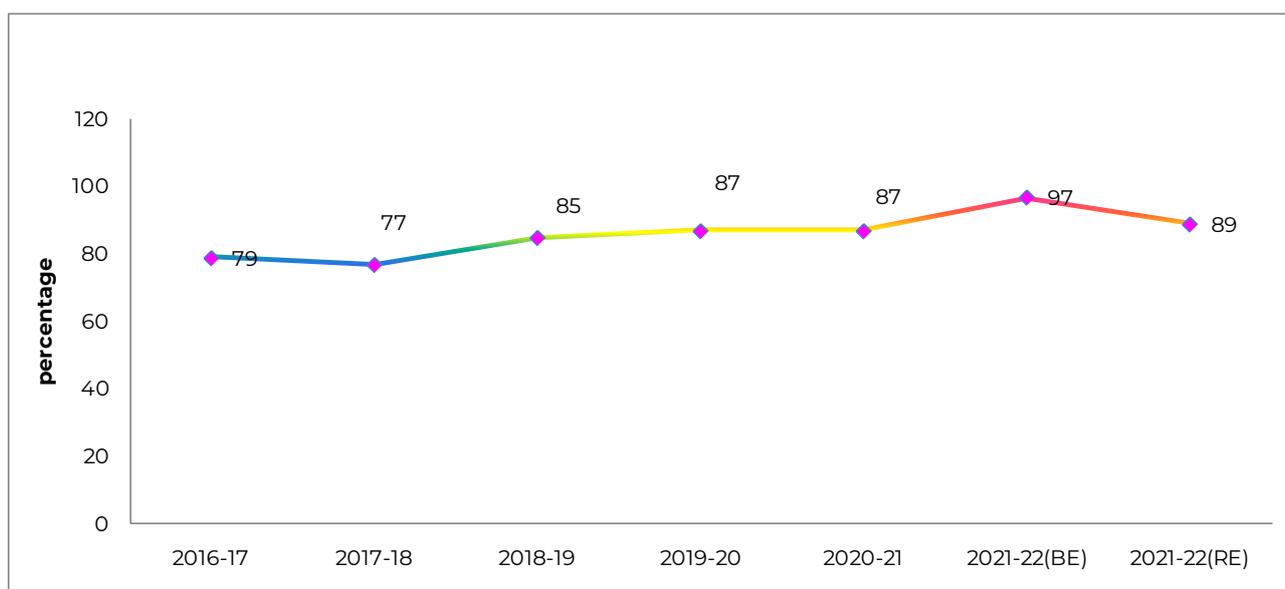
Source: Detailed Estimates of Revenue and Other Receipts 2022-23, Finance Department, GoK

The figures in bracket indicates % to total revenue receipts

2.5.3.4 Committed Expenditure

Large part of government expenditure is expected to follow an autoregressive process with near trend growth increase every year. This is largely due to increased share of committed expenditures in total expenditure. One important indicator to understand the availability of fiscal space for reviving the growth is understand the share of committed expenditures in the uncommitted receipts. This is shown in **Figure 2.7** for the case of Karnataka. As the committed expenditures include salaries, pensions, interest, subsidies, administrative expenditure, devolution to PRIs and ULBs, etc., increase in this share is expected to squeeze resource for development purpose. At present, in the case of Karnataka, committed expenditure constitute over 89 percent of total uncommitted revenue receipts, which is total revenue receipts net of tied grants from Central Government, for the year 2021-22(RE). Reducing this share is utmost important for achieving the FRA targets as well as reducing the outstanding liabilities of the state, which is increasing at a faster pace.

Figure 2.7 : Committed Expenditure as a % Uncommitted Revenue Receipts



Source : (i) Economic Survey 2021-22 Planning Department GoK. (ii) Medium Term Fiscal Plan 2022-26.

2.5.3.5 Economic Classification of Expenditure

To understand the overall economic impact of the Budget proposals, the government expenditures are classified into various economic categories, and this is in addition to the functional classification. This classification broadly looks at consumption and capital expenditures by dividing the total expenditures into three broad sub-headings: final outlays, transfer payments, and financial investments and loans. For the state of Karnataka, the trends in these three categories are presented in Table 2.11 for the last three years. Such classification is especially useful while relating the fiscal policy framework to the medium-term macro-growth targets as set by respective governments.

As shown in **Table 2.11**, the state appears to have continued its focus on capital expenditures to revive the economy. In 2022-23(BE), the state appears to target even larger capital

formation and that augurs well for the durable recovery of the state economy. In terms of shares, consumption expenditure is about 22.22 percent of the total expenditure during the current year. As discussed earlier, the share of transfer payments that largely consists of interest payments and subsidies is expected to be as high as 53.53 percent in the current year. Another concerning fact here is the acquisition of fixed assets, which is expected to decline by 28.57 percent in 2022-23(BE).

Table 2.11 : Economic Classification of Expenditure of Karnataka State Budget-2022-23
(Rs. Crore)

Sl. No.	Description	2020-21 (A/C)	2021-22 (RE)	2022-23 (BE)	Percentage Variation (2022-23 over 2021-22)
1	Final Outlays	82040.35	95905.92	99126.68	3.36
(a)	Government consumption Expenditure	42910.72	53085.95	54473.07	2.61
(b)	Gross Capital Formation	39129.95	42819.62	44653.36	4.28
(c)	Acquisition of Fixed Assets	-0.32	0.35	0.25	-28.57
2	Transfer Payments to the Rest of the Economy	119353.30	124720.76	131228.73	5.22
(a)	Current Transfers *	118139.85	123299.47	129245.05	4.82
(b)	Capital Transfers	1213.45	1421.29	1983.68	39.57
3	Financial Investments and Loans to the rest of the Economy	19007.25	10875.44	14783.22	35.93
	Total Expenditure (1+2+3)	220401.22	231501.77	245138.38	5.89

*includes interest and subsidy R.E.: Revised Estimates, B.E.: Budget Estimates

Source: An Economic-cum-Purpose Classification of the Karnataka Government Budget 2011-12 to 2022-23, Directorate of Economics and Statistics, GoK

2.5.4. Review of trends in Receipts and Expenditure during April-September 2022.

This section analyses the fiscal situation of the state from April to September of the current financial year. The summary of state's financial performance for the first six months of 2022-23 is compared with Budget Estimates of 2022-23 and with the corresponding period in the previous year (2021-22) which is summarized in **Table 2.12**. Further, various components of own tax revenue have been compared and the same is presented in **Table 2.13**.

The total revenue receipt of the state during the first eight months of financial year 2022 - 23 from April to September 2022 is Rs. 100330.00 crore. The state achieved 52.84 percent of its revenue receipts targets for 2022-23 within first six months whereas the revenue receipts collection during the corresponding period of 2021-22 was at 53.16 percent. The revenue receipts include the state's own tax revenue of Rs. 75368.00 crore State's own non-tax revenue of Rs. 5724.00 crores, the devolution from Government of India of Rs 13717.00 crore and grants in aid from Government of India of Rs. 5521.00 crore. Component wise, the government collected 57.15 percent of own tax revenue during April-September of 2022 of the budget estimates of 2022-23 which is only 53.35 percent for the same period during 2021-22. Further, the collection of non-tax revenue reached 52.32 percent of the budget estimates in the first six months of the financial year. This is a growth of 17.06 percent over the previous year. The devolution from Government of India rose by 44.58 percent during April-September 2022 compared to the corresponding period of 2021. The own tax revenue as well as own non-tax revenues during April - September 2022 had increased compared to the corresponding period of 2021 which shows that the economy is on the recovery path.

State's own tax revenue includes, among others, the four major state taxes viz. commercial taxes, excise, motor vehicle taxes and Taxes on stamps and registration. The large proportion of the own tax revenue is coming from Commercial tax collections. Out of the total own tax revenue of Rs.75368.00 crore collected during April – September 2022, Rs.47568.00 crore is from the commercial taxes. The revenue collection from commercial taxes in first six months of 2022-23 reached 62 percent of budget estimates which is an increase of 6.1 percent over the achievement made during the corresponding period in 2021-22. State excise collections for first six months of 2022-23 is Rs.14711.00 crore which is 51 percent of the budgeted estimate for the financial year 2022-23 with an increase of 18.7 percent over the achievement made during the corresponding period of 2021-22. Taxes from motor vehicles during April-Sep 2022 are Rs.4479.00 crores, which is 56 percent of the budgeted estimates for 2022-23. A rise of 58 percent is seen in collections on motor vehicle compared to the corresponding period of 2021-22. The revenue collected under the stamps and registration is Rs 8229.00 crore in the first six months of 2022-23, which is 55 percent of the budget estimates and an improvement of 38.5 percent over the achievement made during the corresponding period in 2021-22.

On the expenditure front, both the share of revenue and capital expenditure spent during first six months of 2022-23 with respect to the budget estimates is 7.38 percent higher than the corresponding expenditure happened during first eight months of 2021-22. This suggests the smooth fund flow to the needy sectors of the economy. The revenue expenditure was spent by 42.43 percent of the budget estimates during April- Sep 2022 and it is 8.86 percent higher to the revenue expenditure during the corresponding period of 2021. Similarly, April-Sep 2022 witnessed 32.68 percent of capital expenditure estimated for 2022-23.

Overall, 39.73 percent of the total expenditure estimated for 2022-23 was spent during April-Sep 2022. This is an improvement of 9.18 percent over the total expenditure made during the corresponding period in 2021-22. This seems to have been largely supported by better revenue mobilization. The total receipts during April-Sep 2022 were 52.88 percent of the budget estimates which is an increase of 9.67 percent over the corresponding period in 2021-22. Therefore, the experience of the state in the revenue collection and

expenditure happened during the first six months of 2022-23 indicates that the fiscal management of the state is satisfactory during 2022-23.

Table 2.12 : Receipts and Expenditure during April-September 2022.

(Rs. Crore)

Sl. No.	Item	2022-23 BE	April to September 2022- 23	% Achievement to BE 2022-23	% During Apr-sep to BE 2021-22	Change over previous year
I	Revenue Receipts	189888.00	100330.00	52.84	53.16	9.56
(i)	Own Tax Revenues*	131883.00	75368.00	57.15	53.35	13.75
(ii)	Own Non-tax Revenues	10941.00	5724.00	52.32	59.22	17.06
(iii)	Devolution from Centre	29783.00	13717.00	46.06	39.09	44.58
(iv)	GIA and Contributions	17281.00	5521.00	31.95	70.39	-49.52
II	Capital Receipts (Non-debt)	89.00	127.00	142.04	19.68	393.13
(i)	Recovery of Loans and Advances	71.00	127.00	178.24	33.64	316.40
(ii)	Other Non-Debt Capital Receipts	18.00		-1.54	-12.03	94.25
III	Total Receipts (I+II)	189977.00	100457.00	52.88	53.13	9.67
	Public Debt	72000.00	3153.00	4.38	1.31	237.65
	Total Receipts including Public Debt	261977.00	103610.00	39.55	37.96	11.97
IV	Revenue Expenditure	204587.00	86798.00	42.43	42.55	8.86
(i)	Interest Payments out of IV	29395.00	12685.00	43.15	40.87	14.27

Sl. No.	Item	2022-23 BE	April to September 2022- 23	% Achievement to BE 2022-23	% During Apr-sep to BE 2021-22	Change over previous year
V	Capital Expenditure	46955.00	155344.00	32.68	34.78	-0.26
(i)	Loans and Advances disbursed out of V	3382.00	831.00	24.57	49.58	-41.78
VI	Total Expenditure (IV+V)	251541.00	102143.00	40.61	41.06	7.38
	Internal Debt	14179.00	3421.00	24.13	10.78	117.88
	Total Expenditure including Public Debt	265720.00	105563.00	39.73	39.27	9.18

*Own tax revenue is inclusive of GST compensation

Source: Finance Department, GoK

Table 2.13: State's Own Tax Revenue during April-September 2022

(Rs. Crore)

Particulars	2022-23 BE	April - Sep 2022	% to BE 2022-23	April -Sep 2021	% To BE 2021-22	Growth over previous year
Commercial Taxes	77010.00	47568.00	62	44827.00	59	6.1
State Excise	29000.00	14711.00	51	12396.00	50	18.7
Motor Vehicle Taxes	8007.00	4479.00	56	2836.00	38	58.0
Stamp and Reg Fees	15000.00	8229.00	55	5942.00	47	38.5
Others	2866.00	380.00	13	257.00	9	48.2
Total (Own Tax Revenues)	131883.00	75368.00	57	66257.00	53	13.8

Source: Finance Department, GoK

2.6 CAPITAL FORMATION BY GOVERNMENT

As expected, the growth rate of value of assets created in 2022-23 was only 4.28 percent. Large part of the assets creation appear to be undertaken by the government with the department commercial undertakings investing just about twenty percent of the total gross capital formation (**Table 2.14**). But in terms of growth, departmental commercial undertakings appear to register a very high growth of 6.74 percent and by Government Administration it is 3.67 percent in 2022-23.

Table 2.14: Capital Formation by the Government of Karnataka 2022-23 (Rs. Crore)

Sl. No.	Description	2020-21 (A/C)	2021-22 (RE)	2022-23 (BE)	Percent Variation (2022-23 over 2021-22)
1	Value of Assets Created	39129.53	42819.26	44653.36	4.28
(a)	By Departmental Commercial Undertakings	6425.00	8601.00	9180.56	6.74
(b)	By Government Administration	32704.53	34218.26	35472.80	3.67
2	Change in Stock in (a) & (b)				
	Total: Gross Capital Formation	39129.53	42819.62	44653.36	4.28

Source: Economic cum purpose classification of Karnataka Government Budget 2022-23, Directorate of Economics & Statistics, Government of Karnataka

- a) **Resources of the Budget (2020-21 to 2022-23):** It may be noted in Table 2.15 that the size of the state's Budget has been growing continuously albeit at a slower pace than the state's nominal GDP growth. For the year 2022-23, while the Budget assumes a nominal GDP growth of 14.4 percent, the increase in the size of the Budget is about 4.96 percent. In levels, the Budget size in the current year is about Rs 2.66 lakh crore. In terms of resources for the Budget, as shown in **Table 2.15**, large part (about two-thirds) is covered by the state own resources. The state's own resources cover about 66.40 percent of the total budget size. But it has to be highlighted here that the share of central assistance appears to decline. It has declined from 6.93 percent in 2020-21 to 6.58 percent in 2021- 22(RE) and 6.50 percent in 2022-23(BE).

Table 2.15 : Financial Resources of the Budget: 2020-21 to 2022-23**(Rs. Crore)**

Sl. No.	Items	2020-21 (Accounts)	2021-22 (RE)	2022-23 (BE)	% Variation in 2022-23 (BE) over 2021-22 (RE)
1	State Own Resources	134330.33 (57.13)	169164.13 (66.82)	176438.44 (66.40)	4.30
2	State Borrowings	84527.95 (5.95)	67331.82 (26.60)	72000.46 (27.10)	6.93
3	Central Assistance*	16286.66 (6.93)	16669.00 (6.58)	17281.01 (6.50)	3.67
	Total	235144.94	253164.95	265719.91	4.96

Source: Budget Documents 2022-23, Finance Department, GoK.

Note: Figures in bracket indicate % to total *Includes grants under CSS and Finance Commission Grants only.

In terms of financing the budget, as shown in **Table 2.16**, with the sharp increase in state's own resources between 2020-21 and 2021-22 (from 1.34 lakh crore to 1.69 lakh crore) and further increase to 1.76 lakh crore in 2022-23(BE), the state had to increase its total borrowing from Rs. 67331.82 crore in 2021-22 to Rs. 72000.46 crore for 2022-23. With marginal decline in central grants and with expected increase in own revenues, over and above the budgeted, the overall borrowings of the state in 2022-23 could be less than the budgeted level of Rs. 72000.46 crores.

Table 2.16 : Scheme of Financing of the Budget: 2020-21 to 2022-23**(Rs. Crore)**

Sl. No.	Sectors	2020-21 (Accounts)	2021-22 (RE)	2022-23 (BE)
A.	State Own Resources			
1	Own Tax Revenue	110842.00	136766.00	131883.00
2	Non-Tax Revenue	7894.00	9000.00	10941.00
3	Devolution from Centre	21694.00	27145.00	29783.00
4	Miscellaneous Capital Receipts	45.23	40.00	18.00
5	Contingency Fund (Net)		420.00	
6	Public Account (Net)	-6490.38	3347.06	4397.07

Sl. No.	Sectors	2020-21 (Accounts)	2021-22 (RE)	2022-23 (BE)
7	Opening & closing Balance (Net)	75.87	-7644.04	-654.56
8	Loans & Advances)	269.87	90.84	71.40
	Total State Own Resources (1 to 8)	134330.59	169164.86	176438.91
B	Borrowings			
9	Market Borrowings	69000.00	63100.00	67911.00
10	Negotiated Loans	1413.87	2000.00	1000.10
11	Non Plan Loans	0.04		
12	Special Assistance	305.00		
13	Loans for EAPs	13809.04	2231.82	3089.36
	Total Borrowings (9 to 13)	84527.95	67331.82	72000.46
C	Central Grants*	16286.66	16669.00	17281.01
D	Rounding off errors while converting lakhs to crore	-0.26	-0.73	-0.47
	Total Budget (A+B+C+D)	235144.94	253164.95	265719.91

Source: Budget Documents 2022-23 Finance Department, GoK Includes grants under CSS and Finance Commission Grants only

- a) **Inter-sectoral Outlays of the Budget (2020-21 to 2022-23):** The expenditure proposals of the state could depend on the need as well as growth and development priorities. For the year 2022-23, as there is recovery in the economic activities, Karnataka has reprioritized the economic sectors that could help reviving the growth as well as employment opportunities in the state. Some of the crucial sectors that the state has focused in this year's Budget are Irrigation, Water supply, urban development, Welfare of SCs, STs, OBCs, and Minorities, Labour & Labour Welfare, among other crucial sectors (**Table 2.17**). All these expenditures should help in uplift the growth potential of the state as well as support the state's efforts in achieving the development goals as prioritized under Sustainable Development Goals (SDGs).

Table 2.17: Developmental Outlays by Major Sectors

(Rs. crore)

Sl. No.	Sectors	2020-21 (A/Cs)	2021-22 (RE)	2022-23 (BE)	% Change in 2022-23 (BE) over 2021-22 (RE) total
	1	2	3	4	5
I	Economic Services				
1	Agriculture & Allied Activities (Including Co- operation)	18988.69	17817.91	20531.70	15.23
2	Rural Development	9144.02	9159.98	9202.05	0.46
3	Special Area Programme	159.69	218.65	215.01	-1.66
4	Irrigation and Flood Control	20618.09	18591.07	20875.71	12.29
5	Energy	14277.18	12197.54	12002.20	-1.60
6	Industry and Minerals	2216.64	1585.96	1636.94	3.21
7	Transport	15561.92	12281.69	12104.61	-1.44
8	Science, Technology & Environment	58.23	35.02	35.30	0.82
9	General Economic Services	5257.25	3807.20	4524.57	18.84
	Total - I: Economic Services	86281.70	75695.03	81128.09	7.18
II.	Social Services				
10	Education, Sports, Art & Culture	25483.39	29607.13	32018.21	8.14
11	Health	11867.91	14631.84	14368.44	-1.80
12a	(a) Water Supply	4707.46	7007.44	7053.20	0.65
12b	(b) Housing	2363.48	3141.65	3659.48	16.48
12c	(c) Urban Development	5547.20	5278.34	5684.96	7.70
13	Information and Publicity	200.39	227.72	210.37	-7.62
14	Welfare of SCs, STs, OBCs & Minorities	7456.59	8596.26	9180.25	6.79
15	Labour & Labour Welfare	586.71	1172.36	754.79	-35.62
16	Social Security & welfare (incl. Nutrition)	12356.43	12394.19	14376.03	15.99

Sl. No.	Sectors	2020-21 (A/Cs)	2021-22 (RE)	2022-23 (BE)	% Change in 2022-23 (BE) over 2021-22 (RE) total
	1	2	3	4	5
17	Relief on Account of Natural Calamities	2315.81	2848.29	1151.78	-59.56
18	Other Social Services	340.55	304.16	300.82	-1.10
19	Secretariat Social Services	47.11	55.03	56.22	2.17
	Total - II: Social Services	73273.01	85264.41	88814.53	4.16
III.	General Services	56224.22	67932.75	72166.17	6.23
IV	Grant-in-aid and Contribution	5681.04	6404.27	6050.54	-5.52
V	Public Debt	11015.81	14564.78	14178.70	-2.65
VI	Loans and Advances	2669.16	2883.71	3381.88	17.28
VII	Transfer to Contingency Fund		420.00		
	Total : State Budget	235144.94	253164.95	265719.92	5.13

Source: Annual Financial Statement 2022-23, Finance Department, GoK

2.7 SCHEMES IN 2022-23 BUDGET

The state has from time to time introduced various schemes to address the needs of the regions, sectors, sections, etc., from time to time. However, as most of the schemes lack sunset clauses, they are expected to continue to exist even after achieving the scheme's objectives, thus putting continuous pressure on the state fiscal conditions. This could also have potential to limit the state's capacity to address some of the emerging challenges that may need substantial resources. It may be noted in **Table 2.18**, there are about 1856 schemes at present. Within that over 50 percent of schemes are with less than 10.00 crore allocations. To improve the public delivery mechanism and to ensure resources for other pressing needs of the state, there is an urgent need to rationalize the schemes and bring down the number of schemes substantial. The same has also been recommended by Expenditure Reforms Commission of the state and also the successive Central Finance Commissions. The State Finance Commission, as and when it is formed, may relook at these schemes. The state could also look at the recommendations made by the Expenditure Management Committee (Chaired by Bimal Jalan) and appropriately rationalize the expenditures.

Table 2.18: Budget Allocation 2022-23(BE)

Sl. No.	Range	No. of Schemes	% to total No. of Schemes	Fund Allocation	% to Fund Allocation
1	Upto one Crore	335	18.05	117.91	0.05
2	Upto to 10 Crore	609	32.81	2833.43	1.25
3	Upto 100 Core	618	33.30	23464.94	10.38
4	More than 100 Crore	294	15.84	199552.7	88.31
	Total*	1856	100	225968.98	100.00

*Excluding debt servicing Rs. 45573.30 crore Inter account transfers Rs. 5822.36 crore.

Source: Budget Documents 2022-23, Finance Department, GoK.

2.8 DISTRICT SECTOR OUTLAYS FOR THE YEAR 2022-23

Karnataka has been in the forefront in the country in terms of District level planning. As district being a major implementing agency with respect to execution of social sector programs, ensuring adequate resources and tracking those resources becomes utmost important for the state as well as for the nation as a whole. The Government of India's Aspirational District scheme is one such initiative to ensure better implementation of both central and state sector schemes. In this section, a summary of the allocations made to the districts in Karnataka are presented. Within the district there are three levels of schemes: ZP schemes, TP Schemes and GP schemes. More than half of the total district outlay is allocated to TP schemes. In 2021-22(BE), nearly 57 percent of total district outlay is allocated to TP schemes (Rs. 24763.00 crores out of total of Rs. 42972.00 crore). The GP schemes consist of about 12 percent while the rest is allocated towards ZP schemes (Table 2.19).

Table 2.19 : District Outlay for the year 2022-23 (B.E)**(Rs. Crore)**

District	Z.P Schemes	%	TP Schemes	%	GP Schemes	%	Total	%
Bangalore (Urban)	584.85	4.43	977.08	3.95			1561.93	3.63
Bangalore (Rural)	178.53	1.35	422.37	1.71			600.90	1.40
Bagalkote	409.01	3.10	890.19	3.59			1299.20	3.02
Belgaum	908.64	6.88	1871.77	7.56			2780.41	6.47
Bellary	260.19	1.97	443.26	1.79			703.45	1.64
Bidar	377.17	2.86	823.97	3.33			1201.14	2.80
Bijapur	519.11	3.93	1111.74	4.49			1630.85	3.80
Chamarajanagar	205.02	1.55	395.43	1.60			600.45	1.40
Chikkaballapur	210.62	1.59	558.42	2.26			769.04	1.79
Chickmagalore	294.04	2.23	574.87	2.32			868.91	2.02
Chitradurga	429.46	3.25	788.13	3.18			1217.59	2.83

District	Z.P Schemes	%	TP Schemes	%	GP Schemes	%	Total	%
Dakshina Kannada	330.14	2.50	602.08	2.43			932.22	2.17
Davangere	377.15	2.86	734.00	2.96			1111.15	2.59
Dharwad	358.92	2.72	637.68	2.58			996.60	2.32
Gadag	274.08	2.08	475.11	1.92			749.19	1.74
Gulbarga	523.65	3.96	1167.63	4.72			1691.28	3.94
Hassan	417.03	3.16	850.36	3.43			1267.39	2.95
Haveri	358.37	2.71	740.98	2.99			1099.35	2.56
Kodagu	151.80	1.15	198.55	0.80			350.35	0.82
Kolar	251.62	1.91	651.94	2.63			903.56	2.10
Koppal	288.75	2.19	649.57	2.62			938.32	2.18
Mandya	341.17	2.58	701.56	2.83			1042.73	2.43
Mysore	474.20	3.59	996.23	4.02			1470.43	3.42
Raichur	337.47	2.55	858.93	3.47			1196.40	2.78
Ramanagar	210.67	1.59	446.36	1.80			657.03	1.53
Shimoga	392.87	2.97	827.50	3.34			1220.37	2.84
Tumkur	561.35	4.25	1213.55	4.90			1774.90	4.13
Udupi	212.47	1.61	374.67	1.51			587.14	1.37
Uttar Kannada	338.55	2.56	756.69	3.06			1095.24	2.55
Yadgir	221.59	1.68	511.65	2.07			733.24	1.71
Lump sum – ZP	2166.61	16.40	1887.96	7.62	5000.81		9053.38	21.07
Grand Total	13208.29	100.00	24762.97	97.49	5000.81	100.00	42972.07	97.98

Source: Budget Documents of Zilla Panchayaths, 2022-23, Finance Department, GoK.

2.9. PRODUCTIVE EXPENDITURE

The Productive expenditure include expenditure on scholarships /subsidies /SDP / other programmed expenses etc., The Budget for 2022-23 is Rs. 265719.91 crore out of which Productive Expenditure is Rs.128806.93 crore (48%) and Administrative expenditure (Salary/Pension/Debt servicing etc) is Rs.136912.98 crore (52%). Productive Expenditure is classified into two categories (i) Expenditure towards Beneficiary Oriented Schemes (Rs.45055.32 crore (37%)) (ii) Infrastructure related schemes (Rs. 81751.61 crore (63%)). There are 810 schemes related to Productive Expenditure out of which 337 are Beneficiary Oriented Schemes and 473 are Infrastructure related schemes. An abstract on Department-wise classification of Productive Expenditure into Beneficiary Oriented and Infrastructure related schemes is give in the following **Table 2.20**.

Table 2.20: Department wise Productive Expenditure of 2022-23 (BE)

(Rs. in crore)

Sl. No.	Department	Beneficiary Oriented		Infrastructure Related		Total	
		No. of Schemes	Amt.	No. of Schemes	Amt.	No. of Schemes	Amt.
1	Agriculture	22	5231.10	17	875.04	39	6106.14
2	Horticulture	15	961.30	7	211.88	22	1173.18
3	Animal Husbandry & Fisheries	19	1475.62	9	273.56	28	1749.18
4	DPAR			2	7.00	2	7.00
5	Home	4	15.60	14	524.73	18	540.33
6	Transport	12	1327.14	5	208.51	17	1535.65
7	Infrastructure			1	2.00	1	2.00
8	RDPR	2	1280.00	22	9856.00	24	11136.00
9	Forest & Ecology	1	0.31	5	192.05	6	192.36
10	Co-operation	3	1281.63	6	250.47	9	1532.10
11	Welfare of SCs	29	2717.14	23	1682.74	52	4399.88
12	Welfare of STs	18	764.86	15	362.57	33	1127.43
13	Welfare of OBCs	19	1645.49	15	588.34	34	2233.82
14	Welfare of Minorities	9	225.39	15	1209.52	24	1434.91
15	WCD	53	4526.00	24	219.55	77	4745.55
16	Information & Publicity	2	3.37	6	180.30	8	183.67
17	Tourism			3	132.11	3	132.11
18	S&Y Empt	3	33.00	10	142.76	13	175.76
19	Food & Civil Supps.	6	2847.94	7	42.27	13	2890.21
20	Revenue	18	9553.26	3	222.17	21	9775.43
21	IT& BT	1	1.00	3	85.00	4	86.00
22	Housing	6	3013.00	6	529.49	12	3542.49
23	Higher Education	7	73.38	53	5480.53	60	5553.91

Sl. No.	Department	Beneficiary Oriented		Infrastructure Related		Total	
		No. of Schemes	Amt.	No. of Schemes	Amt.	No. of Schemes	Amt.
24	Primary & Secondary Education	12	3422.08	37	22830.75	49	26252.83
25	Commerce & Industries	9	388.35	6	250.57	15	638.92
26	Urban Development	2	21.17	13	6697.84	15	6719.01
27	PWD			7	4256.00	7	4256.00
28	Water Resources			1	6.92	1	6.92
29	Medical Education	25	2366.15	36	1474.59	61	3840.73
30	Health & Family welfare	23	3717.64	55	6351.59	78	10069.23
31	Labour	3	37.51	7	64.91	10	102.42
32	Skill Development	6	68.05	20	807.20	26	875.25
33	Energy	1	0.01	2	12000.81	3	12000.82
34	Kannada & Culture	5	54.85	1	0.44	6	55.29
35	Planning			12	3694.24	12	3694.24
36	Law	2	3.00	5	37.18	7	40.18
	Grand Total	337	47055.32	473	81751.61	810	128806.93

Source : Budget Documents 2022-23, Finance Department, GoK

2.10 ASSET MONETIZATION

Asset Monetization is the process of creating new sources of revenue by unlocking the economic value of under utilized public assets. Similar to Govt. of India, the State may also need to look at asset monetization of some of the public sector entities under the State Government (**Table 2.21**).

Table 2.21 : Details of Sector-wise Asset Monetization

Sector	Entities	No. of Assets	Value in Crore	% Value
Roads & Transportation	KRDCL/KSRTC/ NWRTC	806	10413.00	47
Power Generation	KPCL	55	4222.00	19

Sector	Entities	No. of Assets	Value in Crore	% Value
Power Transmission	KPTCL	2	1567.00	7
Power Distribution	GESCOM/ HESCOM/ BESCOM/ MESCOM	1066	1361.00	6
Ware housing	Karnataka State Ware housing Corporation	202	1636.00	7
Industries	KEONICS/KSIDC/ Others	1116	2856.00	13
Other Rural Estate	KSFC/RGRHCL/ Others	74	113.00	1
Total Value		3321	22168.00	

Source : Economic Survey 2021-22, Planning Department, GoK.

2.11 SUSTAINABLE DEVELOPMENT GOALS (SDGs)

As per SDG India Index Report 2020-21, in the following indicators of SDGs, the State is lagging behind when compared to best performing States (**Table 2.22**).

Table 2.22 : Poor performing Indicators

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
% Households living in Katcha houses (2.0)	2	0.3	Kerala	Vajpayee Urban Housing Scheme
				Pradhan Mantri Awas Yojana-Urban
				Ashraya-Basava Vasathi
				D.Devraj Urs Housing Scheme
				Dr. B.R.Ambedkar Nivas Scheme
CSS-Central Share-Pradhan Mantri Awas Yojane Grameena				
% Children who are stunted (32.50)	32.5	19.6	Goa	SNP-Central Share
				SNP-State Share
				CSS-State Share-Pradhana Mantri Maatru Vandana Yojane
% Children who are underweight (32.00)	32	18.7	Kerala	SNP-Central Share
				SNP-State Share
				CSS-State Share-Pradhana Mantri Maatru Vandana Yojane

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
% pregnant women aged 15-49 who are anemic(45.4)	45.4	22.6	Kerala	CSS-State Share-Pradhana Mantri Maatru Vandana Yojane
				CSS-Central Share-Scheme for Adolescent Girls (SAG)
				CSS-State Share-Scheme for Adolescent Girls (SAG)
Gross Value added in Agriculture per worker (0.64 lakh)	0.64	4.2	Goa	CSS-Central Share-Rashtriya Krishi Vikas Yojane (RKVY)
				CSS-State Share-Rashtriya Krishi Vikas Yojane (RKVY)
MMR (92.0)	92	43	Kerala	CSS-Central Share-National Health Mission (Rural)
				CSS-State Share-National Health Mission (Rural)
				CSS-Central Share-National Urban Health Mission (NUHM)
				CSS-State Share-National Urban Health Mission (NUHM)
Doctors/Nurses/Midwives per 10,000 population (70)	70	115	Kerala	CSS-Central Share-National Health Mission (Rural)
				CSS-State Share-National Health Mission (Rural)
				CSS-Central Share-National Urban Health Mission(NUHM)
				CSS-State Share-National Urban Health Mission(NUHM)
Disabled children completed Secondary School education (1.07 lakh)	1.07	1.48	Kerala	CSS-State Share-Samagra Shikshana Abhiyana- Karnataka
				CSS-Central Share-Samagra Shikshana Abhiyana- Karnataka
Gross Enrolment in Higher Education (10.8 lakh)	10.8	17.88	Tamil Nadu	CSS-Central Share-Rashtriya Uccharat Shiksha Abhiyana
				CSS-State Share-Rashtriya Uccharat Shiksha Abhiyana

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
Female Labour Force Participation Rate(0.34)	0.34	0.55	Andhra Pradesh	CSS-Central Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-State Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-Central Share-National Urban Livelihood Mission
				CSS-State Share-National Urban Livelihood Mission
				CSS-Central Share-National Rural Livelihood Mission (NRLM)
				CSS-State Share-National Rural Livelihood Mission (NRLM)
Crimes against women per 10 lakh population (42.5)	42.5	15.6	Tamil Nadu	Crime and Criminal Tracking Network and systems(CCTNS)
				CSS-Central Share -Safe City Project
				CSS-State Share -Safe City Project
% of Female Operational land holdings(20.07)	20.07	30.09	Andhra Pradesh	Agricultural inputs and Quality Control
% Rural population getting safe and adequate drinking water within premises through PWS(59.47)	59.47	100	Telangana	CSS-Central Share-Jal Jeevan Mission (Rural Water Supply Scheme)
				CSS-State Share-Jal Jeevan Mission (Rural Water Supply Scheme)
				Rural Water Supply Scheme including Jaladhare
% employees in non agriculture sector without any social security benefits (38.5%)	38.5	17.3	Arunachal Pradesh	Enforcement of Labour Laws

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
Unemployment Rate (3.90)	3.9	2.6	Chhittsagarah	CSS-Central Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-State Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-Central Share-National Urban Livelihood Mission
				CSS-State Share-National Urban Livelihood Mission
				CSS-Central Share-National Rural Livelihood Mission (NRLM)
				CSS-State Share-National Rural Livelihood Mission (NRLM)
Labour force participation rate (56.60)	56.6	72.1	Himchal Pradesh	CSS-Central Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-State Share-Mahatma Gandhi National Rural Employment Assurance Scheme
				CSS-Central Share-National Urban Livelihood Mission
				CSS-State Share-National Urban Livelihood Mission
				CSS-Central Share-National Rural Livelihood Mission (NRLM)
				CSS-State Share-National Rural Livelihood Mission (NRLM)
Ease of doing business (Feed back score-7.82)	7.82	52.4	Andhra Pradesh	IT Policy
				Startup Policy
Manufacturing employment as a percent of total employment	11.74	20.84	Gujrat	Assistance to MSMEs and other Expenses
				Subsidized Industrial Plots for SC and STs
Internet subscribers per 100 persons(69.35)	69.35	84.32	Punjab	IT Policy
				Startup Policy
Mobile connections per 100 persons(100.28)	100.28	177.45	Goa	IT Policy
				Startup Policy
Manufacturing GVA (2019-20)- Rs. Cr	203966	510650	Gujrat	Assistance to MSMEs and other Expenses
				Subsidized Industrial Plots for SC and STs
Transgender labour force participation rate to male labour force participation rate (0.59)	0.59	1.39	Arunachal Pradesh	Rehabilitation of Transgenders

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
Rate of total crimes against STs per lakh population (7.70)	7.7	0	Arunachal Pradesh	Crime and Criminal Tracking Network and systems(CCTNS)
				CSS-Central Share -Safe City Project
				CSS-State Share -Safe City Project
Rate of total crimes against SCs per lakh population (14.40)	14.4	0.2	J & K	Crime and Criminal Tracking Network and systems(CCTNS)
				CSS-Central Share -Safe City Project
				CSS-State Share -Safe City Project
Installed Sewage treatment capacity as a % of sewage generated in urban areas (31.92)	31.92	115.76	Haryana	CSS-Central Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
				CSS-State Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
% of wards with 100 percent source segregation (65.33)	65.33	100	Himchal Pradesh	CSS-Central Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
				CSS-State Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
% Urban households living in Katcha houses (0.50)	0.5	0	Goa	Vajpayee Urban Housing Scheme
				Pradhan Mantri Awas Yojana-Urban
				Ashraya-Basava Vasathi
				D.Devraj Urs Housing Scheme
				Dr. B.R.Ambedkar Nivas Scheme
Deaths due to road accidents in urban areas per lakh population (12.17)	12.17	5.73	West Bengal	Transport Welfare and Road Safety
% of Municipal Solid Waste Processed against generated (64.10)	64.1	90	Madhya Pradesh	CSS-Central Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
				CSS-State Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
% Hazardous waste recycled to total generated (54.79)	54.79	99.19	Rajsthan	CSS-Central Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
				CSS-State Share-Mukhya Mantri Nairmalya Yojane (Swaccha Bharat)
Plastic Waste generated per 1000 persons (4.17 tonnes per yr)	4.17	0.51	Himchal Pradesh	Implementation of Measures to Control Air Pollution and Other Activities

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
% use of Nitrogen Fertilisers (52.62)	52.62	0	Arunachal Pradesh	Organic Farming and Millets Programmes
Number of human lives lost per one cr population due to extreme weather (10.24)	10.24	2.22	Rajasthan	State Share to State Disaster Response Fund
Disability adjusted life Yrs rate attributed to Air pollution per lakh population (2871)	2871	1436	Arunachal Pradesh	State Share to State Disaster Response Fund
Disaster preparedness score as per Disaster resilience Index (18.0)	18	27.5	Maharashtra	State Share to State Disaster Response Fund
% Area developed under aquaculture	33	63.9	West Bengal	CSS-Central Share-Blue Revolution/ Integrated Development and Management of Fisheries
				CSS-State Share-Blue Revolution/ Integrated Development and Management of Fisheries
% increase in area under mangroves(0.0)	0	5.26	Maharashtra	CSS-State Share-Implementation & Management Action Plan for Mangroves
% increase in area of decertification (0.14)	0.14	-16.69	Uttar Pradesh	Afforestation on Forest Areas
				Flexi Fund
				Social Forestry
				Afforestation in Other Areas
% degraded area to total land area (27.48)-lakh hectares	27.48	3.15	Punjab	Afforestation in Other Areas
				Distribution of Saplings for Afforestation of Non-Forest Areas
Forest and Tree cover as a% of total geographical area (23.37)	23.37	80.64	Arunachal Pradesh	Tree Park Program
Courts per lakh population (1.12)	1.12	3.25	Goa	CSS-Central Share-Constuction of Court Buildings and Judicial Officers Residential Buildings
				CSS-State Share-Constuction of Court Buildings and Judicial Officers Residential Buildings

Indicator	Karnataka	Best State		Name of the Scheme which will address the indicators
Number of victims under Human trafficking per 10 lakh population (2.82)	2.82	0.32	Gujrat	Police Establishment in Existing Districts
				CSS-Central Share -Safe City Project
				CSS-State Share -Safe City Project
Cognizable crimes against children per 10 lakh population (32.2)	32.2	16.1	Andhra Pradesh	Police Establishment in Existing Districts
				CSS-Central Share -Safe City Project
				CSS-State Share -Safe City Project
Reported Murders per lakh population (2.0)	2.00	0.9	Kerala	Police Establishment in Existing Districts

2.12 FISCAL CHALLENGES OF THE STATE AND WAY FORWARD

The fiscal situation in the state of Karnataka has come under pressure similar to all India trends. However, with some prudent fiscal management, the state could ensure that the fiscal deficit has not crossed 3.5 percent of GSDP. However, following the trends in outstanding liabilities (which is expected to increase to 27 percent by 2025-26), it appears that the medium-term fiscal risk is for real. This could put pressure on the quality of expenditures in the state in the coming years. In addition to this, there are other challenges that the state is expected to address in the coming years to achieve one trillion dollar economy by 2026-27. They are as follows.

Ensuring quality of expenditure: As seen in the Medium-Term Fiscal Plan – 2022-26, it is very clear that the state that had experienced surplus on revenue account, has started running revenue deficit of over 1 percent and this is expected to continue in the medium term. While this is against the FRA, the state needs to undertake hard decision with regard to rationalising of some of the revenue expenditures. This could have implications on the outstanding liabilities in the medium term. Further, as RBI Monetary Policy Report in April 2019 suggest, the size of states' revenue expenditure multiplier is 0.82 compared to its capital expenditure multiplier of 2, it would be prudent for the state to adopt the expenditure switching mechanism to improve the potential GSDP of the state.

Improving efficiency of public expenditures: With the hard budget constraints, one way to address this issue is to ensure maximum outcomes of the public expenditures. For this, the state needs to focus on the enhancing public expenditure efficiency by adopting input-output outcome frame work on the lines of NITI Aayog. The State has productive expenditure (programme expenditure) of 48 percent, and admin related expenditure (salary/pension/debt servicing) of 52 percent. It is required to reduce admin-related expenditure and increase the productive expenditure to improve the efficiency of expenditure. There is a large scope for the state of Karnataka to improve both input as well as output efficiency especially in the social sector. For this, there is a need to adopt input-output-outcome framework, at the district level, and correspond with the district level governance that could ensure better public delivery mechanism.

Ensuring flow of resources for SDGs: With the current budget size of about Rs 2.66 lakh crore, it could be understandable the extent the SDG needs are going to put pressure on the government finances. It is very opt time to think about sources of SDG financing, its impact on the fiscal conditions, as well as its impact on the other macroeconomic conditions. In a way, the time is very conducive to work on SDG-consistent macro frameworks that take a little longish perspective up to 2030. Without such exercise, the realization of such humongous target could be very limited. The State is also localizing SDGs to create awareness about SDGs at GP/TP/ZP level and achieve SDGs by 2030.

Rationalization of various schemes: Karnataka currently has over 1856 schemes. While allocating resources could be one issue, management of such a large number of schemes could limit the administration capabilities and reduce the efficiency of those expenditures sharply. The Central Government has taken an exercise to bring down the Centrally Sponsored Schemes substantially. As was done by the Centre, rationalization of these schemes and bringing down to manageable level may be an utmost priority.

Rationalization of subsidies: The subsidies in Karnataka are higher than any comparable states and within that non-merit component appear to be larger. Quick rationalization of non-merit subsidies is one clear way for freeing more resources for addressing growth and development objectives.

Ways to improve revenue sources: With the decline in the share of state in the central government devolution plan and with GST in place, the pressure on state's own tax revenue has increased manifolds. Further, with the uncertainty regarding extension of GST compensation after June 2022 and with decline in the grants-in-aid, the state is in dire need to look for alternative sources of revenues. One way that the state could do is to improve the tax administration through use of IT services to improve the buoyancy.

APPENDIX 2.1

Trends in Revenue and Capital Receipts in Karnataka

(Rs. in Crore)

Year	State's Own Tax Revenues	Share in Central Taxes	Total Tax Receipts	Total Non-Tax Receipts	Total Revenue Receipts	Total Capital Receipts*	Aggregate Receipts
2010-11	38473.13	9506.30	47979.43	3358.28	58206.23	12215.64	70421.86
2011-12	46476.01	11074.99	57551.00	4086.86	69806.27	15317.53	85123.80
2012-13	53753.56	12647.14	66400.70	3966.11	78176.22	16878.51	95054.73
2013-14	62603.54	13808.27	76411.81	4031.89	89542.52	19533.42	109075.94
2014-15	70180.30	14654.14	84834.44	4688.24	104142.13	21994.02	126136.15
2015-16	75566.45	23967.07	99533.52	5355.04	118817.31	22337.72	141155.03
2016-17	82956.21	28759.86	111716.07	5794.53	133213.79	32405.92	165619.71
2017-18	93376.34	31751.98	125128.32	6476.53	146999.63	35384.55	182384.18
2018-19	107667.09	35811.28	143478.52	6773.00	164978.52	42399.55	207461.74
2019-20	116879.29	30899.42	147778.68	7681.47	175442.79	42952.25	218395.04
2020-21	110862.79	21673.11	132535.90	7893.84	156716.41	71252.66	227969.07
2021-22 (RE)	136775.71	27134.94	163910.65	9000.00	189579.26	69729.72	259308.98
2022-23 (BE)	131882.75	29783.21	161665.96	10940.56	189887.53	75486.84	265374.37

RE=Revised Estimates, BE=Budget Estimates

* Figures Capital Receipts (i) includes Public Account (Net) and Contingency Fund (Net) (ii) excludes Ways and Means and Market Borrowings.

Source: Annual Financial Statements-2022-23, Finance Department GoK.

Economic Survey 2020-21 and 2021-22 Planning Department, GoK

APPENDIX 2.2

Trends in Developmental and Non-Developmental Expenditure in Karnataka

(Rs. in Crores)

Year	Developmental Expenditure	Developmental Expenditure as % of Total Expenditure	Non-Developmental Expenditure	Non-Developmental Expenditure as % of Total Expenditure	Aggregate Expenditure
2010-11	51626.38	72.74	19344.94	27.26	70971.32
2011-12	60929.69	72.14	23533.97	27.86	84463.66
2012-13	68067.53	71.66	26922.26	28.34	94989.79
2013-14	76328.45	69.99	32729.25	30.01	109057.70
2014-15	88904.73	70.44	37312.82	29.56	126217.55
2015-16	100440.69	71.12	40794.06	28.88	141234.75
2016-17	123989.38	74.94	41455.39	25.06	165444.77
2017-18	136285.13	73.09	50177.82	26.91	186462.95
2018-19	154527.55	74.61	52584.47	25.39	207112.02
2019-20	157822.41	72.49	59903.41	27.51	217725.82
2020-21	162219.00	71.13	65825.87	28.87	228044.87
2021-22(RE)	163825.43	67.51	78839.40	32.49	242664.83
2022-23(BE)	173308.80	67.77	82410.92	32.23	255719.72

RE=Revised Estimates, BE=Budget Estimates

Source: Budget Documents 2022-23, Finance Department, GoK.

Economic Survey 2020-21 and 2021-22, Planning Department, GoK

3.1 INTRODUCTION

Promotion of private investment has been high on the agenda of Government of Karnataka. The concerted efforts by the State have resulted in a large-scale inflow of investments during the past few years. The State has also developed a distinct policy framework for guiding investments and set up dedicated institutions that streamline the approval processes. Karnataka offers wide range of fiscal and financial incentives to investors even while nurturing the supporting infrastructure such as technical institutions, laboratories, and research institutions. The State's information technology and biotechnology sectors have attracted significant investments and contribute to significant exports from the country in these sectors. Exports contributed about 40% of the State's Gross State Domestic Product (GSDP) with electronic, computer software and biotechnology contributing a major portion of the exports. Karnataka's economic growth can be accelerated further with a continued emphasis on promotion of private investment, ease of doing business ecosystem and enhancement of industrial competitiveness.

3.2 INVESTMENT IN KARNATAKA

Karnataka is a pioneer in introducing many reform initiatives adopted in India and has been highly proactive in attracting private investment. Lucrative policies incentivizing private domestic and foreign investments are framed from time to time. These policies along with an investment friendly climate in the State have helped the State attract large-scale private investment, especially in Information and Communication Technology (ICT) and Biotechnology (BT) sectors. Karnataka Biotechnology and Information Technology Services (KBITS), established under the Department of IT, BT and S&T by the Government of Karnataka, is specially meant for the promotion and facilitation of investments in the State. On 26th April, 2018, KBITS was renamed as Karnataka Innovation and Technology Society (KITS) to enable promote and drive innovation and entrepreneurship in the state of Karnataka.

Karnataka's vast and diversified resource base has emerged as a reputed investment destination for investors worldwide. The State was the first to enact the Industrial Facilitation Act to help investors. Karnataka has a single window which acts as a one-stop-shop for investments in the State. The specific advantages for Karnataka include i) Good law and order situation prevailing in Karnataka which is conducive to foreign direct investments ii) Abundant availability of highly skilled manpower iii) Karnataka ranks among the top 5 industrially developed States in India iv) The State provides excellent logistic support and connectivity to the investors and v) The State provides one of the biggest and fast expanding markets in the Country.

Karnataka's investor-friendly and responsive administration has worked towards easing administrative procedures and implementing policy measures for faster and smoother industrial growth. Some of the significant measures are as follows:

- ❑ An investor-friendly responsive administration
- ❑ The State-level single window clearance committee and the State high level clearance committee facilitate clearance of proposals in a speedy manner.

- ❑ Sector-specific industrial zones and SEZs that match the natural resources and capabilities of a region with the industry requirements.
- ❑ Creation of World-class, ready-to-use infrastructure through investments in power, roads, water, warehouse and logistic facilities, connectivity through rails and ports etc.
- ❑ The State Government's packages of incentives and concession for new industrial investments announced from time to time
- ❑ Special focus on skill development to enhance generation of technical manpower
- ❑ Excellent telecommunication network and optical fibre connectivity throughout the State
- ❑ Exemption from State taxes for all purchases from domestic tariff area

Investment flows into Karnataka

Karnataka Udyog Mitra (KUM) is a single contact point for all investors who are looking at setting up enterprises/business in Karnataka. As the nodal agency, its role is to facilitate investments and execute initiatives to enable a smooth transition from the stage of receiving investment proposals to the eventual implementation of the project. It acts as a secretariat for State Level Single Window Clearance Committee (SLSWCC) for projects above Rs. 15 crore up to Rs. 500 crore and the State High Level Clearance Committee (SHLCC) for projects above Rs. 500 crore. About 393 Investment projects worth Rs. 2.37 lakh crore has been approved with the generation of employment to the tune of 1.95 lakh during April 2022 to December 2022. The details of the projects approved by SLSWCC and SHLCC from April 2022 to December 2022 are shown in **Table 3.1**.

Table 3.1: Projects approved by SLSWCC and SHLCC from April 2022 to December 2022

Committee	No. of approved Projects			Investment Rs.in crore			Employment in Nos
	No of New projects	No of Additional Investment projects	Total Projects	Investment from New Projects Rs. crore	Additional Investment from earlier approved projects Rs. crore	Total Investment Rs. crore	
SLSWCC	335	20	355	15537.68	1342.89	16680.57	57870
SHLCC	21	17	38	197500.72	22767.53	220268.25	137282
Total	356	37	393	213038.40	24110.42	236948.82	195152

Source: Karnataka Udyog Mitra, Bangalore

Foreign Direct Investment(FDI) Inflow in Karnataka

Karnataka account for a significant share in the total FDI inflows in India. The state attracted USD 39.36 billion FDI equity inflow over the period October 2019 to September 2022 which is 23% of the national share. The year wise FDI inflow breakup for the state of Karnataka is given in the **Table 3.2**.

Table 3.2: Foreign Direct Investment Inflow in Karnataka

FDI Equity inflow	Karnataka (USD billion)	Karnataka (Rs. crore)
FY22-23 (April-Sep)	5.33	41,678
FY21-22	22.07	1,63,795
FY 20-21	7.6	56,884
Cumulative (Oct 2019 – Sep 2022)	39.36	2,93,106

States/UTs attracting FDI inflows from April 2022 to September 2022 are given in **Table 3.3**. The total FDI inflows to the Karnataka State (Rs. 41677.56 crore) stand second position on FDI inflows among 26 Indian States (Rs. 2,10,156.27 crore) from April 2022 to September 2022.

Table 3.3: State-wise FDI equity Inflow during financial year 2022-23 from April 2022 to September 2022

Sl. No.	State Name	Amount of FDI Equity Inflow		%age with Inflow
		(In Rs. crore)	(In USD million)	
1	Maharashtra	62425.12	7999.95	29.73
2	Karnataka	41677.56	5329.27	19.80
3	Delhi	35486.04	4538.52	16.87
4	Gujarat	26866.48	3472.79	12.91
5	Haryana	13639.23	1736.65	6.45
6	Tamil Nadu	12271.71	1563.68	5.81
7	Telangana	7578.19	969.21	3.60
8	Rajasthan	5594.36	712.32	2.65
9	Uttar Pradesh	1513.61	193.74	0.72
10	Andhra Pradesh	1199.60	151.94	0.56
11	West Bengal	581.79	73.40	0.27
12	Kerala	481.69	61.43	0.23
13	Madhya Pradesh	217.84	27.88	0.10
14	Odisha	162.98	20.54	0.08
15	Himachal Pradesh	152.52	19.46	0.07
16	Punjab	133.44	17.12	0.06
17	Jharkhand	42.23	5.45	0.02
18	Puducherry	34.55	4.41	0.02
19	Uttarakhand	21.56	2.82	0.01
20	Bihar	20.67	2.62	0.01
21	Chandigarh	18.50	2.36	0.01

Sl. No.	State Name	Amount of FDI Equity Inflow		%age with Inflow
		(In Rs. crore)	(In USD million)	
22	Assam	13.84	1.78	0.01
23	Chhattisgarh	8.97	1.12	0.00
24	Goa	8.14	1.03	0.00
25	Jammu And Kashmir	5.47	0.70	0.00
26	Ladakh	0.20	0.03	0.00
	Gross-Total	2,10,156.27	26,910.20	

*Total FDI inflow includes equity inflow, equity capital of unincorporated bodies, re-invested earnings, and other capital. Sector/State/Country-wise details are maintained only for equity component of FDI inflow.

Investment in Information Technology (IT)

The IT sector in Karnataka has become one of the primary growth drivers of Karnataka's economy. Information Technology Sector in Karnataka is primarily concentrated in Bangalore. Lately, other parts of Karnataka have also seen a growth in IT-related activities.

Bangalore was the first city in India to set up a Satellite Earth Station for high speed communication services to facilitate software exports in 1992. The State made a giant leap in the Information Technology sector by establishing the Country's first extended facility of the international gateway and network operations centre at the Software Technology Park of India (STPI) in the Electronic City. Karnataka is home to over 5500+ IT/ITES companies, ~750 MNCs contributing to over USD 58 billion of exports, giving direct employment to over 12 lakh professionals and creating over 31 lakh indirect jobs. The industry contributes to over 25% of the State's GDP. The share of Karnataka in Information Technology exports is nearly 40% of the country's exports of USD 155 billion.

3.3 SCHEMES AND POLICY SUPPORT

Karnataka IT Policy 2020-25

The Government has brought out new IT Policy-2020, where in several incentives are being offered to new IT / ITes and other knowledge-based sectors to set up their facility in Tier 2/3 Cities across Karnataka through incentives on land, stamp duty and taxes.

Karnataka Start-up Policy 2015-2020

The Karnataka Government's efforts to facilitate entrepreneurship in the state can be traced back to 2015, when "Karnataka Start-up Policy 2015-2020" was launched with a vision to stimulate the growth of 20,000 tech start-ups by 2020. The State Government launched several start-up-focused funds that have a corpus of USD 47.3 million. Over 14,000 people have signed up on the Start-up Karnataka Portal as Start-ups, Mentors, Incubators, Investors, Institutes etc., and more than 2500 start-ups have been certified by Karnataka Start-up Cell so far, of which around 720 companies have been funded under Idea2PoC/ Elevate Grant-In-Aid Seed Funding scheme.

Incubation Infrastructure

Government of Karnataka has signed MoUs with partners to set up incubators and facilitate start-ups with relevant infrastructure. Government has set up 1.25 lakh sq. ft. area of K-Tech Innovation Hubs in various parts of Karnataka managed by NASSCOM, IAMAI and Bangalore Bio-innovation Centre (BBC).

K-Tech Innovation Hub by NASSCOM

The Government of Karnataka in line with its i4 policy has set up a K-Tech Innovation Hub by NASSCOM, which is located in K-Wings, HSR Layout, Bengaluru.

Achievements

- ❑ 356 Startups have been incubated physically from 2013 to till date and 32 Startups have been incubated for the FY 22-23
- ❑ 2400 Startups have been virtually incubated from 2014 to till date
- ❑ In the Virtual Program the following has been achieved:
 - ▶ Provided 260+ hours of deep dive workshops on multiple topics
 - ▶ Provided 300+ investor connects on a regular basis
 - ▶ 120+ mentoring hours connecting expert mentor and start-up one on one
 - ▶ 15 start-ups got acquired
 - ▶ 15% start-ups recorded 5x increase in revenue.
 - ▶ 20% start-ups doubled their revenue
 - ▶ 55+ PoCs signed up between start-ups and corporates

K-Tech Innovation Hub by IAMAI

K-Tech Innovation Hub by IAMAI has been established in association with IAMAI to strengthen the mobile app ecosystem in the State of Karnataka with the objective to train mobile application developers and incubate and promote entrepreneurship. The centre is located in K-Wings, HSR Layout, Bengaluru.

Achievements

- ❑ 105 Startups are incubated at K-Tech Innovation Hub by IAMAI from 2015 to till date and 30 Startups have been incubated for the FY 22-23
- ❑ Supporting 14 Elevate, Amrut & Unnati winner startups.
- ❑ IAMAI has partnered with multiple corporates and institutions to provide various startup credits and offers.
- ❑ Startups incubated in IAMAI have raised approx. Rs. 20 crore funding

K-Tech Innovation Hub by Bangalore Bio-innovation Centre (BBC), Bengaluru

K-tech Innovation Hub – Bangalore Bio-innovation Centre is an initiative of Karnataka Innovation Technology Society (KITS), Department of Electronics, IT, BT and S&T, Government of Karnataka with funding support from Department of Biotechnology (DBT), Government of India. It is located within Bengaluru Helix Biotech Park at Electronic City in a 10 acre campus with a total built up area of above 60,000 sq. ft. It provides incubation, mentoring support, funding opportunities, branding support and networking support besides laboratories and equipment. BBC caters to the broad areas of Life Sciences i.e., Healthcare (MedTech & Pharma/Bio-Pharma), Agriculture, Food/ Nutrition, Industrial Biotechnology and Environmental Biotechnology. Addition of 15,000 sq. ft. space to meet the growing demand for the incubation is under progress. Within a short span of 6 years, it has emerged as the largest Life Sciences start up hub in the country. BBC has consecutively, for the last two years, bagged the Best Bio-Incubator award in the country under the public sector undertaking category in the BioSpectrum survey. Currently, BBC houses more than 100 start-ups in its campus with 45 start-ups already been graduated. Around 45 products developed under the nurturing support of BBC have been launched and around 71 patents have been filed. The start-ups at BBC have attracted Rs. 400 crore worth of Investments and the combined valuation of start-ups has reached Rs. 1000 crore.

IDEA2PoC/ Elevate Grant in Aid Seed Funding Scheme

Idea2PoC – a scheme to provide early-stage funding to ideas or concepts which are yet to establish the proof of concept in the real world, up to Rs. 50 lakh. Till date, 14 calls have taken place and around 720 Start-ups/ Ideas have been selected for funding. The total committed fund is Rs. 163.92 crore.

Beneficiaries of Elevate/ Idea2PoC Grant-in-aid Seed Funding Scheme

BOUNCE (Wicked Ride Adventure Services Private Limited)

Sector: Mobility

Brief description: Bounce is India's first smart mobility solution, with a mission of making daily commute stress-free, time-saving, reliable and convenient. Bounce Infinity is India's first Electric Scooter that doesn't need charging. Swap your drained battery with a charged one at a Bounce swapping station and keep going! Developed in-house by Bounce, it's made in India, for India.

Grant-in-aid (Rs.): 10 lakh

Funds raised (Rs.): >500 crore

NIRAMAI Health Analytic Private Limited (Women-led start-up)

Sector: Healthcare

Brief description: NIRAMAI, have developed a novel software-based (AI & Thermal Imaging) medical device to detect breast cancer in early stage. NIRAMAI received US FDA clearance for their medical device SMILE-100.

Grant-in-aid (Rs.): 25 lakh

Funds raised (Rs.): 50 crore

Shuhari Tech Ventures (Women-led start-up)

Sector: Fin-Tech

Brief description: An instant personal loan app that gives you loans of up to Rs. 1 lakh in just 3 minutes.

Grant-in-aid (Rs.): 35 lakh

Funds raised (Rs.): 28 crore

Bellatrix Aerospace Private Limited

Sector: Space-Tech/ Electronics System Design and Manufacturing (ESDM)

Brief description: Bellatrix Aerospace develops advanced propulsion systems for satellites that are more efficient, cost effective, saving and reliable compared to its global competition.

Grant-in-aid (Rs.): 35 lakh

Funds raised (USD): 8 million in a Series A funding

Steradian Semiconductors Private Limited

Sector: ESDM

Brief description: Steradian is the pioneer in Integrated 4D Imaging Radars. Steradian's radar technology is expected to be adopted in home security systems such as surveillance, traffic monitoring for people, cars and motorcycles, HMI systems such as gesture recognition and docking systems in airport terminals.

Grant-in-aid (Rs.): 37 lakh

Funds raised (USD): 2.1 million in funding over 4 rounds. Renesas (Japanese company) buys Steradian Semiconductors in Aug 2022.

String Bio (Women-led)

Sector: Healthcare & Agri-Tech

Brief description:String Bio is in the business of manufacturing raw materials for Animal Nutrition, Agriculture, Human Nutrition and Personal Care sectors that are derived using a sustainable and traceable process.

Grant-in-aid (Rs.): 20 lakh

Funds raised (USD): 20 million in Series B funding

Scapic Innovations

Sector: Industry 4.0 - AR

Brief description: 3D powered product visuals for eCommerce

Grant-in-aid (Rs.): 20 lakh

Funds raised (Rs.): Acquired by Flipkart

Elevate Women

Elevate Women Entrepreneurship a program is undertaken by the Department as part of the Budget Announcement in the financial year 2021-22. This program aims to support women entrepreneurs across the entrepreneurial lifecycle and create an enabling ecosystem to enhance participation of women in entrepreneurship. This is an Acceleration and Incubation Programme exclusively for women entrepreneurs by partnering with Not-for-profit organizations that have considerable experience in running these programs and by extending support through Grant-in-aid. Four organizations/agencies have been selected under the Acceleration program with a Grant-in-aid of Rs. 40 lakh/Cohort. Under the Incubation program three organizations/agencies have been selected with a Grant-in-aid of Rs. 30 lakh/Cohort

Incentives and Concessions

❑ **Incentives** – Reimbursement of patents, tax and marketing expenses for Start-ups

Incentive Type	No. of Start-ups (approx.)	Amt. in crore (Rs.) (approx.)
Patents, Marketing, Tax (GST)	50	1,33,95,777

- ▶ Marketing Incentives: Rs. 15,41,111
- ▶ Patent Filing Cost: Rs. 51,51,040
- ▶ Reimbursement of Service Tax: Rs. 7,92,672
- ▶ Reimbursement of GST: Rs. 55,417

❑ **Booster Kit** – a power packed collection of software tools and services available on pro-bono basis tailor made to cater to the needs of early stage start-ups.

Services	Companies
Cloud	Google, Amazon, Microsoft
Acceleration & Incubation	The GAIN, DERBI, StrongHer Ventures
Banking & Finance	HDFC, Axis Bank, SBI, Razorpay, Paytm

Capacity Building through Exposure Visits and Workshops

Asia-Berlin Summit

This is an annual summit of year long Asia-Berlin activities where policymakers, start-ups, and investors meet to discuss the newest tech trends and cross-border collaboration

between Asia and Berlin. 7 start-ups from Karnataka travelled to Berlin as part of official Govt delegation.

NOKIA Innovation Day 2022, 5G Workshop

The Department of Electronics, IT, BT and S&T, Government of Karnataka in partnership with Finnish embassy in India and Nokia organized the workshop “Innovation Day 2022-Unleashing the 5G Network”, a workshop aimed at providing an invigorating platform for innovative start-ups focused on the 5G Technology. The workshop aimed at identifying synergy, areas of mutual interest towards collaborative efforts to bring highly scalable, powerful, efficient, Intelligent, flexible, smart networks through 5G technology. The workshop also aimed at identifying Start-ups from Karnataka interested in a joint collaboration, project or R&D with Nokia in 5G technologies in the future.

The workshop aimed at providing a stage for collaboration around 5G use case implementation through which start-ups can grow eminently. In turn help in development of 5G ecosystem, a win-win for Nokia and the participating start-ups. The workshop showcased 5G and its use cases to start-ups, explored potential opportunities and collaboration avenues between Nokia and Start-ups. The start-ups got an opportunity to showcase use cases to collaborate with Nokia in areas of mutual interests.

Karnataka Unit for International Collaboration (KUIC)

Global Innovation Alliance program is an initiative launched by Government of Karnataka in 2017 with an aim to create a platform for global collaboration on technology and innovation and to ensure State of Karnataka is provided an opportunity to showcase its strengths as part of this global tech revolution.

- ❑ Karnataka currently has 30+ GIA partners with whom there are constant engagement and/or joint projects are being executed.
- ❑ Some of the start-up focused types of programs conducted with GIA partners:
 - ▶ GIA Market Access Program: To help start-ups enter new markets, establish international partnerships, and increase global sales.
 - ▶ An inbound program was conducted with Berlin during 2019 where two start-ups from Berlin came to Karnataka and an MoU has been signed during April 2022 for conducting a bilateral program with Berlin.
 - ▶ Outbound program has been conducted with The Netherlands where start-ups got an opportunity to explore the Dutch ecosystem
 - ▶ GIA Tech Engagement Meet: Event to introduce Karnataka start-ups to GIA country start-up ecosystem for collaboration.
 - ▶ Around 15 GIA Tech Engagement Meets have been conducted with around 12 countries.
 - ▶ We have also collaborated with countries like UK, Australia, Germany etc to have Karnataka based start-ups participate in specific tech and innovation focused start-up programs launched by their countries

The Grand Challenge Channelizing Innovation for Social Impact

Grand Challenges : It is an initiative of the Government of Karnataka, to scout for new technologies or innovations that can offer solutions to some of the persistent social issues pertaining to the State of Karnataka. Grand Challenges, Karnataka aims to channelize innovations for social impact, and in the process support the establishment and growth of Start-ups. The department has conducted 7 Challenges under Grand Challenge Karnataka so far.

K-Tech Innovation Hub by IKP

Government of Karnataka has set up K-Tech Innovation Hubs across the State in identified areas for e.g. Electronics, Mobile, Animation and Gaming, Design engineering etc. These are accelerators and incubators and provide all necessary infrastructures for the given sector such as R&D Labs, common centre for prototyping, common testing/QA/QC labs and design studios. It is great to note that 101 teams across 4 centres and around 50 seats have been occupied by women. 500+ direct jobs have been created and the program has reached more than 1500 innovators

Common Instrumentation Facilities (CIFs) established by K-tech Innovation Hub in - Belagavi, Mangaluru, Mysuru, Shivamogga and GTTC, Rajajinagar, Bengaluru.

Centres of Excellence (COEs)

Centre of Excellence (CoE) in various sectors has been set up to drive innovation and entrepreneurship in the State of Karnataka. CoEs have been created in 8 new and emerging technologies such as Data Science and Artificial Intelligence, Cybersecurity, Internet of Things, Agri innovation among others. The CoEs have been created in PPP mode to create a platform for bringing together start-ups, academia and R&D, and industry. Around 400 start-ups have been benefitted from the program with the start-ups raising Rs. 600 crore funding and 70+ mentors and industry partners have been established.

K-Tech Centre of Excellence in Cyber Security by IISc

The K-Tech COE in Cyber Security was formed in 2017 by Govt. of Karnataka, as part of the Technology Innovation Strategy, to promote the cyber-safe and conducive environment for industry collaboration, address the skill gaps, build awareness and facilitate innovation in the emerging technology field of Cyber Security. The K-Tech centre of Excellence shall also facilitate standardization the best practices for information security across industry domains, foster innovation, research & development and conduct some of the high-end-in-house-training programs within Cyber Security Technologies.

K-Tech Centre of Excellence for Data Science and Artificial Intelligence by NASSCOM

The K-Tech COE – DSAI has been established with a vision to put Karnataka in the global map of top 3 destinations for Data Science & Artificial Intelligence. This will further strengthen the State's DS & AI ecosystem and will provide a platform for AI and technology collaboration between various stakeholders. As per a KPMG Global Technology Innovation Report 2018, Bangalore is one of the TOP 10 global innovation hubs and counted amongst the likes of Tokyo, London, Beijing, Tel Aviv, New York etc.

K-tech Centre of Excellence on Internet of Things (IoT) by NASSCOM

The K-Tech Centre of Excellence for IoT India, at Bangalore, is a Digital India Initiative to jump start the IoT ecosystem in India taking advantage of India's IT strengths and help country attain a leadership role in the convergent area of hardware and software. The main objective of the K-Tech CoE IoT is to help Indian IoT Start-ups leverage cutting edge technologies to build market ready product.

To kick start the Government's 'Digital India' initiative a Centre of Excellence for IoT at Bangalore was established in July 2016. Jointly formed by MeitY (Ministry of Electronics and Information Technology), ERNET, NASSCOM and supported by Government of Karnataka.

The centre after its establishment has contributed to the community at large. Listed below in **Table 3.4** are a few impacts made by the institution.

Table 3.4: K-tech Centre of Excellence on IoT by NASSCOM

Start-ups enrolled (including Graduated)	162
Connected Pan India for market opportunities + mentoring	1151
Employment Generated (by Start-ups)	2262
IOT Researchers incubated	135
Prototypes showcased	137
Papers presented in global conferences	23
IP's Applied (Granted)	23 (14)
Societal Projects Executed	45
Partners Signed up : Strategic/Co-create/ Innovation/ Infrastructure/Technology	51
Events Organized (Participated)	146 (215)
Showcase of eco system and start-ups to the Global and Domestic Governments, VIP visitors, policy makers, investors, corporates, MNCs/GICs, innovation adopters etc.	172

K-tech Centre of Excellence in Machine Intelligence & Robotics by IIIT-Bengaluru

The Department of IT, BT and S & T in association with IIIT-B has set up a K-Tech Centre of Excellence on The Machine Intelligence and Robotics (MINRO) at cost of Rs. 34.70 crore.

K-tech Semiconductor Fabless Centre of Excellence by India Electronic Semiconductor Association (IESA)

Government has set up a K-Tech Semiconductor Fabless Centre of Excellence to provide Indian fabless semiconductor product companies easy access to (otherwise exorbitantly expensive) R&D infrastructure for e.g. EDA Tools, Design IPs (foundation IPs/ Core IPs), Foundry access – foundry design kits, subsidized test chip shuttles, Server Farm and

other physical infrastructure, in order to enable them to successfully do their design to all the way to product prototypes.

K-Tech Centre of Excellence for Efficiency Augmentation

To address the technical challenges of various important sectors in the development of Karnataka, a Centre of Excellence for Efficiency Augmentation is being established with the collaboration of STPI. The CoE for “efficiency augmentation” is a multi-disciplinary research centre proposed at the Yuvaka Sangha a society having registered office in Jayanagar, Bengaluru. The Centre of Excellence shall be of international standard which seeks to bring together the international community, Industry to debate, deliberate, act and innovate in both the industry (infrastructure, business transformation and people development), in order to address technology’s impact on Industry. The proposed CoE on efficiency augmentation is an open cyber-physical systems (CPS) ecosystem designed to cultivate early-stage innovation and experimentation. This CoE aim to work with Govt, SME/MSME & tech start-up leaders to transform business ideas into tech deliverables. The CoE shall pilot, adapt technology and processes to proactively predict industry needs and address real-world industry challenges. This CoE aims to provide with comprehensive, end-to-end solutions that demonstrably improve quality and efficiency of Industry tech start-ups.

ARTPARK

I-Hub-ARTPark has been established as an IISc promoted Section 8, Not-for-Profit company, in the name and style of ‘I-Hub for Robotics and Autonomous Systems Innovation Foundation (I-Hub)’ on 16th September 2020, as a collaboration between IISc (Anchor Institution), AIOT Foundry Private Limited and the Department of Science and Technology, Government of India (“DST”). Total Project Cost of Rs 210 crore (GOI- Rs 150 crore & GOK- 60 crore).

DST, through the Mission Office NM-ICPS (“Mission”) I-Hub-ARTPark will help create and maintain next generation Artificial Intelligence (“AI”), Robotics and advanced communication facilities (5G), curate technology innovation projects and help nurture technopreneurship activities. Physical and virtual infrastructure will be created in IISc campus (both in Bengaluru and in Challakere) as well as outside IISc campus. I-Hub-ARTPark will also develop skills training modules and run technopreneurship programs to help create start-ups in the emerging area of AI and Robotics systems. The goal is to develop the AI and Robotics ecosystem in Karnataka with I-Hub-ARTPark acting as a nodal agency that will create technologies for Artificial Intelligence, Robotics and Autonomous Systems.

Government of Karnataka will provide financial assistance of Rs. 60 crore towards setting up the CoE and its operations for a period of 5 years and provide strategic direction and support.

Centre for Internet of Ethical Things (CIET)

The Karnataka’s Department of Electronics Information Technology Biotechnology and Science & Technology (IT, BT &ST) has granted approval for establishment of the CIET in collaboration with IIIT-Bangalore and World Economic Forum (WEF). The proposed Centre, envisioned by the Karnataka Government, is expected to contribute to a policy

framework which explicitly engages with ethical and moral aspects of technologies and also nurture a thriving innovation ecosystem in the state. The CIET will focus on health, agriculture, education, manufacturing and mobility.

IIIT Bangalore's Research Expertise at CIET with an emergence of novel technologies, the ethics often lags behind the technological innovation. The IoT structure can radically change the relationships between humans and the interconnected technologies or devices, giving objects autonomy towards humans. To prevent this risk from materializing, and regulate the ethical challenges that IoT enabled AI applications potentially bring in, solutions embedded with ethical frameworks are necessary.

Government of Karnataka envisioned fostering research in the areas of AI and IoT technologies that will align with the human development needs of present societies, especially the marginal and under-served population. Through CIET, IIIT-Bangalore is aimed to contribute its in-depth research expertise in the domain of security, privacy, hardware design, data management and ethical policy, and formulate a technological framework.

Karnataka Electronics System Design and Manufacturing (KESDM) Policy 2017-22

The Government of Karnataka, through KITS, has announced the new ESDM Policy 2017-22 on 1st December 2017, offering ecosystem support and various incentives/concessions to ESDM companies of the State. ESDM 2017-22 is aimed at by achieving the following goals

- ❑ Stimulate the growth of 2000 ESDM start-ups
- ❑ Enhance value addition done in Karnataka by 50%.
- ❑ Create 20 lakh new jobs in the ESDM industry by 2025
- ❑ Effect a quantum jump in the overall revenues of Karnataka's ESDM companies to USD 40 billion by 2025.
- ❑ Significantly grow the ESDM exports from the state to USD 16 billion by 2025.

Achievements under the KESDM 2013 Policy

Seventy-two companies are registered till date under this Policy. Incentives to the tune of Rs. 14.57 crore have been disbursed till date to the registered KESDM Companies apart from other concessions given to the companies.

Brownfield ESDM Cluster at Mysore

In Hebbal Hootagalli of Mysore 1.5 acres of KEONICS land have been identified for setting up of Common Facilitation Centre (CFC). This CFC is being established under the EMC Scheme of MeitY, Government of India, supported by Government of Karnataka and private partners.

CFC will function as a service provider to assist the firms seeking services in

- ❑ Innovating and developing new products
- ❑ Producing value added products

- ❑ Enhance productivity
- ❑ Meeting international regulatory requirements

Brownfield ESDM Cluster at Hubballi

The Brownfield ESDM Cluster is set up in Sandbox Start-ups (Foundation of Sandbox Start-ups Initiatives), a thriving business incubator, an initiative by Government of Karnataka in association with Deshpande Foundation & IESA, in Hubballi in order to promote ESDM sector in the North Karnataka region to develop indigenous products, by providing them office space with plug-and-play facilities at subsidized rates.

Very Large Scale Integration (VLSI) Incubation Centre at Hubballi

The VLSI incubation is being set up in Bhoomaraddi College of Engineering and Technology, Hubli/KLE Tech University, Vidyanagar, Hubli in association with IESA.

The VLSI/ESDM Incubation centre works with the start-ups or incubatees who are interested to design semiconductor chips.

Incubation centre has also identified the Electronic Design Automation (EDA) software's required and reached out to the various EDA companies in order to partner with them who can in turn help the incubates with access to the various licensed software as a part of initial investment.

BioEconomy

Karnataka is pioneering state and very proactive in launching initiatives that support and nurture the growth of industry and its citizens. One of the stated missions of the Karnataka Biotech Policy (2017-22), which was released in 2017, is for the state to aim for a 40 to 60% market share of the national BioEconomy target of USD 100 billion by the year 2025. Karnataka contributed about USD 18.9 billion (~20%) to Indian BioEconomy in 2022. Karnataka's Biotech industry crossed USD 200 million R&D spent in 2022 and records around 15% year over year growth. Biopharma and Bioservices are the two crucial segments contributed majorly to Karnataka's Biotech sector. BioAgri segment is the largest contributor and accounts for nearly 23% of the total share followed by BioPharma (23%), Bioservices (15%), BioIndustrial (11%) sectors as per the Karnataka Bioeconomy Report by Association of Biotech Led Enterprises (ABLE).

Karnataka's BioEconomy recorded 15% Year over Year (YoY) growth in 2022 and valued at USD 18.9 billion. The period witnessed 155 new biotech start-up registrations in the state (58% YoY growth). Karnataka generated an average of USD 1.58 billion per month in 2022, compared to USD 1.37 billion generated every month in 2021. Key segments of the Biotech sector are BioAgri, BioIndustrial, BioPharma (Therapeutics, Vaccines, Diagnostics, Medical Devices), BioServices (CRO / CDMO) and Covid Economy. It has significant other areas of contribution like in digital healthcare and drug delivery; big data, IoT, and artificial intelligence driven platforms; smart agriculture and smart foods, veterinary science and reagents and analytical businesses (ABLE).

Biotechnology Policy

Karnataka was one of the first Indian States to frame an industry-oriented biotechnology policy and had come out with the Millennium Biotech Policy in 2001 followed by revised Millennium Biotechnology Policy – II (2009 – 2014). Now, Karnataka Biotechnology Policy – III (2017–2022) integrates and adopts new and emerging technologies as well as utilizing the new developments in the rapidly advancing field of biotechnology for finding new solutions to the persisting challenges in the State and beyond has been envisaged. The policy also aims to capture 50% share of the national bioeconomy target of USD 100 billion by further enhancing “Ease of Doing Business” and strengthening relationships with other relevant departments in the Government.

Achievements

Institutional Infrastructure and Promotion of Entrepreneurship

The Bengaluru Helix Biotech Park was conceptualized with the following components: Institutional Area to carry out cutting edge R&D, Innovation Area for start-ups to create disruptive products and innovations in the sector and Industrial Area for enterprises/MNCs to facilitate biotechnology industry. The first two components have successfully developed with an investment of over Rs. 160 crore for the last 12 years to build, develop and support Institutional and Innovation areas in the Bengaluru Helix Biotech Park.

The institutional area of 20 acres houses Institute of Bioinformatics and Applied Biotechnology and Centre for Human Genetics. The innovation area of about 10 acres has a state-of-the-art Incubation Facility at Bangalore Bioinnovation Centre setting up of Incubation and common instrumentation facilities across Karnataka to accelerate innovation and supporting the infrastructure facility for the institutes.

K-Tech Innovation Hub by Bangalore Bioinnovation Centre (BBC), Bengaluru

Institute for Bioinformatics and Applied Biotechnology (IBAB), Bengaluru

IBAB is a non-profit autonomous institute set up by the Department of Electronics, IT, BT and S&T, Government of Karnataka. IBAB is established to undertake research and development in advanced areas of Biotechnology including Bioinformatics, Cancer Biology, Synthetic Biology, Structural Biology, etc., also to produce skilled manpower in these areas for the benefit of growing Biotechnology industry in the state. IBAB while continuing to offer PG Diploma, M.Sc and Doctoral programs in the areas of Bioinformatics & applied Biotechnology. An amount of Rs. 600 lakh annual grant was sanctioned for the FY 2022-23 towards maintenance and academic activities. A sum of Rs. 300 lakh has been already released. As part of capacity building of resources in emerging areas of biotechnology, two separate projects are being implemented by IBAB with the support of the State Government.

Synthetic Biology Group at IBAB

Government had approved the establishment of Synthetic Biology Group with a total budget of Rs. 9.85 crore for a period of 5 years. The group has successfully developed and established several tools, reagents and technologies useful for translational research activities and routinely uses them in the lab to generate new genes and customized

genetic elements which include template-less PCR, DNA vectors, novel yeast expression vectors based on synthetic promoters and transcription activators to create a library of yeast strains capable of protein expression, cloning of multiple promoters, reporter genes, terminators, etc.,

Till now more than 15 post-graduate students have been training and their projects completed. Two iGEM (International Genetically Engineered Machine) teams were formed by post-graduate students at IBAB who were mentored for the competition with one team winning iBEC (Indian Biological Engineering Competition, pre-iGEM event and getting grant support from from DBT, GoI for participating in iGEM. A total of Rs. 545 lakh has been released so far towards the program which includes Rs. 50 lakh released during the FY 2022-23.

Bio-IT Centre

Bio-IT Centre established at IBAB for undertaking training and collaborative research in the area of Genomics by utilizing the Next Generation Sequencing facilities at the Centre at total project cost of Rs. 1433.52 lakh with Government of Karnataka supporting Rs. 946.02 lakh over 5 years period.

Under the project hands-on NGS-sequencing and analysis workshops have been regularly conducted to graduates, post-graduates, doctoral degree students, faculty, scientists and industry executives. Several collaborative research programs and publishing of research papers in peer reviewed international journals and conferences are carried out under the project. A total of Rs. 625 lakh has been released so far towards the program which includes Rs. 50 lakh released during the FY 2022-23.

Centre for Human Genetics (CHG), Bengaluru

CHG provides comprehensive clinical services, including genetic counselling to patients carrying a range of genetic disorders and in-born errors of metabolism. CHG is affiliated to Bangalore University for awarding the M.Sc. degree and Manipal Academy of Higher Education for awarding Ph. D. degree. During the last three years, the Centre has provided diagnostic & counselling services to over 27,000 families with genetic disorders. These services are provided free of cost to BPL families from the support provided by the department. GoK has released an annual grant of Rs. 250 lakh for FY 2022-23 to CHG.

Bengaluru Helix Biotechnology Park (Industry Zone)

Bengaluru Life Sciences Park is being developed in 52 acres 27 guntas of land in PPP mode is an integrated Industry zone with total built-up area of about 60 lakh sq. ft. when fully developed to have best-in-class laboratory infrastructure to support a host of R&D activities to have 60% of the area reserved for biotech/lifesciences companies. It is estimated that industry zone with 150+ biotech/lifesciences companies and over 50,000+ employees will be the growth engine of biotech sector in the State.

The park will have a dedicated incubation space with shared instrumentation lab facilities and customizable fully fitted lab and office suites. It will also house laboratory building for mid-sized companies with modular lab suite options and shared conference rooms, training rooms and cafeteria.

Advanced Biotech Innovation Centre for Aqua-Marine (ABIC for AM)

KITS, Department of Electronics, IT, BT and S&T has partnered with College of Fisheries, Mangaluru to establish Advanced Biotech Innovation Centre for Aqua-Marine to encourage aqua-marine biotech sector in the State by supporting innovative ideas generated by researchers, young professionals, and entrepreneurs. A MoA between KITS and College of Fisheries was executed on 25th of January 2022 with a total project cost of Rs. 600 lakh. First year grants of Rs. 200 lakh have been released in February 2022 to the host institute for implementing the project.

Anti-Venom Research and Development Centre (AVRDC)

An Anti-Venom Research and Development Centre (AVRDC) is being established as a collaborative initiative between KITS, GoK, IBAB and the Evolutionary Venomics Lab, Centre for Ecological Sciences, Indian Institute of Science at IBAB campus. The centre will come up at IBAB campus on a total built-up area of about 16,000 sq. ft. and will have a serpentarium, venom extraction observatory, research lab, incubation facility and digital library. The total cost of the project is Rs. 700 lakh for a period of 5 years. First-year grants of Rs. 200 lakh have been released to IBAB in the in FY 2021- 2022 towards implementation of the project.

K-tech Innovation Hub by University of Agriculture Sciences, Dharwad

Agri Incubation Centre and Common Instrumentation Facility (Agri-IC_CIF) has been established in University of Agricultural Sciences (UAS), Dharwad for promoting Agriculture and Agricultural Biotechnology industry in the state. The facility in the 6,800 sq. ft. area has 6 Bio-Suites and currently three start-up companies are incubated at the centre.

K-tech Innovation hub by Central Food Technological Research Institute, Mysuru

A Nutra-Phyto Incubation Centre and Common Instrumentation Facility (NPIC-CIF) has been established in the campus of Central Food Technological Research Institute (CFTRI), Mysuru for nurturing entrepreneurs in the area of nutraceuticals and functional foods for accelerated research, scale-up and efficacy studies all through a single point of access. The centre is fully operational in 8,536 sq. ft. area with a total of 12 Bio-Suites. Presently, 8 start-ups are working at the centre.

Centre for Biotechnology Research, Bagalkote

Centre for Biotechnology Research (CBR) has been set up in the campus of University of Horticultural Sciences, Bagalkot to carry out advanced research and promote entrepreneurship in horticultural sciences. Common instrumentation facility and incubation space with a total area of 26,436.16 sq. ft. area has been developed with an area of 5,000 sq. ft. dedicated space for supporting start-up companies.

Institute for Agricultural Biotechnology (IABT) at UAS, Dharwad

Started in 2002 with seed funding from the Department of Electronics, IT, BT and S&T, GOK, IABT offers M.Sc. and Ph.D. Degrees in Molecular Biology and Biotechnology and other domains of Agriculture Biotechnology. IABT has also been awarded Rs. 6.49 crore to set up Incubation Centre and Common Instrumentation Facility for entrepreneurship.

These centres will facilitate the development of biotech start-ups and provide them quality infrastructure facilities for R&D, research translational opportunities and mentorship from experts.

Karnataka Start-up Advancement Program Bio 50 (K-SAP Bio-50)

K-SAP Bio-50 is an integrated, comprehensive program initiated by the Centre for Cellular and Molecular Platforms (C-CAMP), Bengaluru and is supported by the Department of Electronics, IT, BT and S&T, Government of Karnataka at a total cost of Rs. 333.90 lakh targeting 50 start-ups during the three years of project period.

In three cohorts, a total of 27 start-ups have been mentored and the 4th cohort is under progress. A Supplementary Agreement to the existing MoA was signed to conduct accelerated K-SAP BIO 50 Program by integration of Elevate winner Start-ups for completing the Cohort of 50 start-ups.

K-tech Centre for Excellence (COE) by C-CAMP

A Centre of Excellence for Agri Innovation has been established at Centre for Cellular & Molecular Platforms (C-CAMP) to promote deep-science/technology driven entrepreneurship in the agri sector, leading to innovation, economic development and job creation in the agricultural domain.

The project with total budget of Rs. 15 crore for a period of 5 years with Department of Electronics, IT, BT and S&T and Agriculture Department sharing in 25:75 ratios. An amount of Rs. 3 crore is already released in FY 2018-19.

Human Resource - DBT Skill Vigyan State Partnership Programme

A Skill Vigyan Centre has been set-up at Karnataka Innovation and Technology Society (KITS), with the support of Department of Biotechnology, Ministry of Science & Technology, Government of India. The Department of Biotechnology, GOI has initiated Skill Vigyan Programme in Life Science & Biotechnology for providing quality hands on training in tools and techniques in multidisciplinary areas of biotechnology for entry level students (10+2 and Graduates in Biotechnology), Refresher/Faculty training in advanced and emerging areas of Life Science and Biotechnology for UG & PG Teachers and Mid-career Scientists engaged in teaching and research, enhancement of entrepreneurial skill sets among students under Entrepreneurship Development Programme and Finishing School Programme for industry ready skilled manpower in partnership with State and Union territories through hub & spoke model. KITS entered MoA with 7 partner institutes for providing Faculty Training Program (FTP) and Entrepreneurship Development Program (EDP) under DBT Skill Vigyan State Partnership Programme in Life Science and Biotechnology. A sum of Rs. 32 lakh grant amount has been released towards 1st year expenditure out of Rs. 78.80 lakh sanctioned for the implementing the program. Around 63 students under EDP and 65 Faculty participants in 1st Batch have undergone training programs. Student beneficiaries from each EDP partner institute are undergoing 3-6 months industrial training.

Technology Business Incubator

Business Incubation has been globally recognized as an important tool for job creation and economic development. Department of Electronics, IT, BT and S&T, Government of Karnataka (GoK) intends to support Technology Business Incubators primarily in Institutions with strong R&D focus to tap innovations and technologies for venture creation by utilizing expertise and infrastructure already available with the host institution.

In order to foster strong partnership between R&D institutions and industry, the Karnataka Start-up policy had envisaged for supporting establishment of TBI for promoting Innovations in thrust areas such as ICT/IOT/Software Products, ESDM, Robotics, 3D Printing, Healthcare and Biopharma, Agriculture & Allied Fields, Clean Tech, Energy, Water & its recycling, Education, Nanotechnology & Composites.

Through TBIs, it is intended to bring academia, industries, and financial institutions all to one platform and promote/nurture novel technology/innovation coming out of such association. Also, the start-ups will have Infrastructure, equipment, mentoring, branding, networking, legal, financial, technical, intellectual property related services all in one roof to build a vibrant start-up ecosystem within the academic setup.

Government of Karnataka is supporting establishment of the following TBIs:

- 1) Ramaiah – GoK Business Incubator, Bengaluru
- 2) MedTech & Geriatrich Healthcare, TBI at Centre for Product Design & Manufacturing, IISc, Bengaluru
- 3) Nano-Science TBI at Centre for Nanoscience and Engineering, IISc, Bengaluru
- 4) Manipal – GoK BioIncubator, MAHE, Manipal, Udupi

Currently, a total of 70 incubated start-ups are benefiting under the program that includes, usage of the high-end equipment, mentorship, networking opportunities, market access and other support provided by the host organization. Out of the total budget outlay of Rs. 2971 lakh for a period of 5 years, so far a total of Rs. 2111 lakh has been released under the TBI program.

Karnataka BioEconomy Report (KBER) 2023

KITS has commissioned ABLE to provide a snapshot of the latest developments related to bio-based economy in Karnataka, with a view to understand the status and progress made by various segments.

BioEconomy is an economic activity that is driven by development and provisioning of bio-based products and services. It takes into consideration the economic, ecological and social impact aspects in the strategy. The Karnataka BioEconomy Report, “Quarterly Update” is quarter- wise review of bio-based economy of Karnataka in a calendar year. The “Quarterly Update” attempts to focus on broad coverage of the bio-based economy in Karnataka. It does not provide a comparison of BioEconomy in Karnataka vis-a-vis other states. The release of the provisional quarterly results is to allow policy makers, businesses and other stakeholders to know the key trends and react to the emerging and developing situations appropriately.

The “Quarterly Update” is versioned as “Karnataka BioEconomy Report 2023, Quarterly Update” though it captures the performance of the sector in the calendar year 2022. The data from the four quarters (January – March, April – June, July – September, and October – December) would be published at the end of each quarter. The full-year annual report will be released in 2023. The reports of Quarter 1 and 2 have been released as on date.

Implementation of Departmental Schemes

KITVEN Fund-2

Divested from 1 company (avekshaa Technologies) for Rs. 2.50 crore and KITS received Rs. 43 lakh from the Fund.

KITVEN Fund-3 (Biotech)

In compliance with the Government of Karnataka rules and regulations, an exclusive Bio Venture Capital fund of the size of Rs. 50 crore has been registered with SEBI to partner with the Government of Karnataka and launched. This will offer equity-based funding to the biotech companies in need of mid-to late stage funding.

The Fund proposes to invest in companies catering to Biotechnology and such other allied sectors within the State of Karnataka. The investment in companies will be in the nature of equity, preference capital (convertible/ redeemable), debentures OR combination of any of the above instruments adhering to the guidelines issued by the Securities & Exchange Board of India (SEBI) from time-to-time. The typical investment horizon would be 3-5 years although lower periods would also be considered. Name of the subscribers, their committed amount is as under **Table 3.5** and **Table 3.6**.

Table 3.5: KITVEN Fund-3 (Biotech)

Sl. No.	Name of the Subscriber	Committed (Rupees in crore)
1.	KITS (including Agriculture Department, GoK, KITS)	18 crore (including 5 crore from Agriculture Department, GoK)
2.	KSIIDC	5 crore
3.	SIDBI (Managers of Fund-of-Funds for Start-ups, Govt. of India)	5 crore or 10% of the committed corpus, whichever is less
4.	BIRAC, Govt of India	4 crore
5.	KSFC	5 crore
	Total	37 crore

Table 3.6: Status of Investments from the Fund

Sl. No	Company Name	Amount (Rs. in crore)
1	Pandorum Technologies Pvt Ltd	4.50
2	String Bio Pvt Ltd	5.00

Sl. No	Company Name	Amount (Rs. in crore)
3	Vipragen Pvt Ltd	2.75
4	JIVA Sciences Pvt Ltd	4.45
5	Fibroheal Woundcare Pvt. Ltd.	4.50

1. Karnataka Semiconductor Venture Capital Fund (KARSEMVEN Fund)

Traditionally, Karnataka has been the favoured destination for the technology sector in IT/ITES, biotechnology and semiconductors. Bengaluru has been the preferred as hub of the Government of India (GoI) defence labs. This coupled with the talent pool, access to engineering colleges and attractiveness as an investment destination for private sector companies, has created an ecosystem giving Karnataka a national edge.

Bengaluru is the largest hub of semiconductor design companies, outside the Bay Area in California. Nearly 70% of the country's chip designers work here and around 80% of the sector's revenues in design are from this city alone.

Government of Karnataka / KITS (formerly KBITS) has set up Karnataka Semiconductor Venture Capital Fund (KARSEMVEN Fund) for assisting Companies in the Semiconductor sector. The total fund size is Rs. 92.95 crore. KITS has contributed Rs. 25 crore to the fund and the balance has been mobilized from various other investing banks, financial institutions, and Government of India (GoI).

KARSEMVEN Fund during the FY 2022-23 has fully divested its investment in Pinaka Aerospace Solutions Pvt. Ltd for Rs. 15.26 crore as against an investment of Rs. 8 crore and Prodigy Technovations Pvt. Ltd for Rs. 3.32 crore as against an investment of Rs. 1.63 crore. From the above divestments, the Fund has returned Rs. 15.75 crore to subscribers (Rs. 10.19 crore as capital & Rs. 5.56 crore as profit). The Fund has totally exited from 3 companies fully and realized Rs. 29.79 crore as against investment of Rs. 16.18 crore. The outstanding investment at cost is Rs. 67.25 crore.

The details of divestment & outstanding investments in Venture Capital Undertakings (VCUs) are shown in **Table 3.7** and **Table 3.8**.

Table 3.7 : Details of divestment & outstanding investments in VCUs

Sl. No.	Name of the Company/ VCUs	Disbursement (Rs. in crore)	Month & Year	Divestment Value (Rs in crore)/ Month & Year
1	Graphene Semicon Services Pvt. Ltd.	4.95	January 2015	8.01 crore Nov 2018
2	Prodigy Technovations Pvt. Ltd	3.20 0.03	July 2015 & Sept 2019	6.52 crore Jan 2021 & May 2022

Sl. No.	Name of the Company/ VCUs	Disbursement (Rs. in crore)	Month & Year	Divestment Value (Rs in crore)/ Month & Year
3	Pinaka Aerospace Solutions Pvt. Ltd	4.00 4.00	December 2015 & Oct 2017	15.26 crore May 2022
	TOTAL (Exited VCUs)	16.18		29.79 crore

Table 3.8 : Outstanding investments

Sl. No.	Name of the Company/ VCU	Disbursement (Rs. in crore)	Month & Year
4	SenseGiz Technologies Pvt. Ltd	3.00	November 2015
5	Greendzine Technologies Pvt Ltd	3.00	March 2017
6	Remidio Innovative Systems Pvt Ltd	5.50 3.00	July 2017 & Nov 2019
7	C&B Electronics Pvt Ltd	5.00	April 2018
8	AptEner Mechatronics Pvt Ltd	5.00 3.00	February 2019 & April 2021
9	Open Appliances Pvt Ltd	3.50	March 2019
10	Bellatrix Aerospace Pvt Ltd	3.00 5.00	June 2019 & June 2022
11	Bionic Yantra Pvt Ltd	2.50	November 2019
12	AlphalCs India Pvt Ltd	5.00 2.00	December 2020 & January 2022
13	iCaltech Innovations Pvt Ltd	2.50	April 2021
14	Aarav Unmanned Systems Pvt Ltd	4.50	July 2021
15	Calligo Technologies Pvt Ltd	3.50	October 2021
16	Taqanal Energy Pvt Ltd	3.25	February 2022
17	QUNU Labs Pvt Ltd	5.00	March 2022 & April 2022
	TOTAL (outstanding VCUs)	67.25	

KITVEN Fund-4 (Animation, Visual Effects, Gaming and Comics (AVGC))

AVGC Venture funds initiated by KITS, shall be managed by Karnataka Asset Management Company (KAMCO). The objective of the fund is to invest in Start-ups, Early stage, Small & Medium sized enterprises and such other enterprises engaged in AVGC sector and other related businesses by investing in equity and equity linked instruments as per the guidelines of SEBI. Venture Capital fund of the size of Rs. 20 crore has been registered with SEBI. Fund received commitment from KITS (Rs. 10 crore), KSIIDC (Rs. 5 crore) and KEONICS (Rs. 5 crore). All subscribers have released 5% of the committed amount towards launching of the Fund, SEBI Fee, Legal, documentation, statutory fees

etc. Investment Committee has been formed. Fund has convened 2 IC meetings for undertaking investments in 2 companies.

Bengaluru Tech Summit 2022 (BTS 2022) Biotechnology Track

The Department of Electronics, IT, BT and S&T of the Government of Karnataka, and Software Technology Parks of India is organizing India's flagship technology event and Asia's largest tech summit.

This was the 25th edition of Bengaluru Tech Summit with its theme 'Tech4NexGen' to benefit industry leaders, technocrats, young innovators, investors, R&D professionals & academia, and policy makers in IT, biotech, Deeptech and other future unravelling technologies. The theme for IndiaBio@BTS was designed with "Leading the New Normal", a worldwide gathering of Industry Leaders, Top Research Think Tanks, Academics, Policymakers to explore new frontiers in biotech research and business. The world has seen unparalleled collaborations in the areas of vaccine R&D and drug development in the last year, while maintaining business continuity. Innovation and Collaboration are going to be the driving factors for the industry in the coming year, and that is what was captured in the 12 sessions with 56 speakers including keynote and moderators of the 2022 edition. Some of the key focus topics include: Genomics Revolution 2.0 and its implications, Smart Supply Chains in Biopharma, Gene Editing and Agriculture, One Health and Pandemic Prevention, The Future of Genomic Medicine, Bio Industrial to Boost Bioeconomy in Synthetic Biology, Bioenergy and Renewable Biochemicals, Smart Protein, Biotech Future: Cell and Gene Therapy, Big Data in Drug Discovery, How to reach the USD100 Billion Biological Manufacturing opportunity for India and Bioinvesting: Public -Private Partnerships. The Events at BTS-2022 included Multitrack Conferences, International Exhibition Awards, Global Innovation Alliance, Start-up focus, National Rural IT Quiz, Bio Quiz, Biotech Posters, STPI IT Export Awards, Smart Bio Awards, Silver Jubilee Felicitations, & beyond Bengaluru Awards.

Highlights of BTS 2022

- ❑ The Asia's Largest Tech Show started with a stunning 3 minutes Inaugural Film on Gandaberunda, the two-headed bird which is the ethos and glory of Karnataka
- ❑ Launch of R&D Policy - Karnataka Research, Development and Innovation Policy
- ❑ Silver Jubilee Felicitations of ITE and BIOTECH Companies- 25+ Years of presence in Bengaluru/Karnataka for 35 companies.
- ❑ Launched 22 innovative products/solutions by start-ups
- ❑ Product Launches by USPTO's Educational IP Workshop, 1Verse's Metaverse workshop, Deeprio, Next Big Innovation Lab's 3D Bio Printing Machine etc with coverage by media.
- ❑ Bio Quiz 15th edition goes National for the first time with 1198 registrations from PAN India & Participation of students from 24 states.
- ❑ The prestigious IT Ratna of Karnataka was awarded to Infosys and Intel
- ❑ IT Pride of Karnataka awarded to TCS, Bosch, Mindtree, and 21 other companies

- ❑ GIA Expo 17 GIA Sessions – Germany, Thailand, Australia, France, Finland, Sweden, Denmark, Netherlands, UK, Japan, Singapore, South Korea, Austria, Poland, Switzerland, Canada, Israel, Lithuania, Italy, United States of America

The International Pavilion consisted of exhibitors from various countries including USA, Canada, Germany, Netherlands, Britain, Denmark, Thailand and South Korea.

R&D Lab to Market pavilion hosted leading R&D labs of India which showcased their technologies & original IP that had the potential to venture in to the market as products & services that could create significant social impact & reduce import dependence. India's premier R&D institutes including CSIR Labs, ICMR Labs, DRDO Labs, C-DAC, C-DOT, NAL, IAP, ISRO, IIIT-B, and BIRAC were part of R&D Lab to Market pavilion at the exhibition.

Start-ups zone had 353 exhibitors from diverse sectors such as IT, Electronics, AI & ML, IoT, Digital Learning, Mobility, Blockchain, Robo & Drone, Cyber Security, Gaming, HealthTech, Fintech, Edutech, SmartTech & Agri Tech along with pavilions of I-BioM, BBC, BIRAC, KDEM, IKEP, Kerala Start-up Mission and Brigade REAP from 19 cities of India.

3.4 AWARDS AND PROMOTIONAL ACTIVITIES

Industry Awards

STPI IT Export Awards: STPI is associated with Bengaluru Tech Summit since its inception in 1998 and over the years STPI IT Export Awards have become a major highlight of the event. The top performing IT companies in terms of Exports, Employment, Women Employment, etc. were awarded on 17th Nov 2022 evening in a grand STPI IT Export Awards -2022 Ceremony, during Bengaluru Tech Summit 2022. An eminent jury consisted of members from STPI, Government of Karnataka, Academia, Industry Association and Industry.

Smart Bio Awards: The India Bio@BTS has been presenting Smart Bio Awards with an objective of recognizing biotechnology firms that have shown dynamic leadership, exciting technologies and stand-out contribution in their chosen fields of biotech activities.

SECTOR	ORGANISATION
Biotech Start-up of the year	Natura Crop Care
Innovator of the Year Award	Stempeutics Research
Best Social Enterprise/ Institute	Centre for Incubation, Innovation Research & Consultancy
Woman Entrepreneur of the Year	Mocxa Health
Best Start-up Against COVID-19	Blackfrog Technologies Pvt. Ltd.

Bengaluru Impact Awards

Bengaluru takes pride in its well-deserved status as the start-up capital of India. The First 40 out of 100 unicorns of India are housed in Bengaluru. This year 10 Unicorns and 3 Decacorns were felicitated in the august presence of Hon'ble Chief Minister of Karnataka and Hon'ble Minister of Commerce and Industry, Govt. of India.

UNICORNS: ACKO General Insurance, Amagi Media Labs, DealShare, Gance, LeadSquared, Livspace, Mensa Brands, No Broker, Open Financial Technologies and Slice.

DECACORNS : Byju's, Swiggy and Flipkart.

Product Launches and Demo

Booster Kit: Hon'ble Minister of Electronics, IT, BT and S&T, GoK launched the Booster Kit in partnership with Google, Paytm, HDFC, Razorpay, Microsoft & other Ecosystem Partners to provide a gamut of pro bono services to further assist the start-ups in their growth journey.

Start-up Product/Services Launch

Launched 21 innovative products/solutions by start-ups. The innovative products/solutions developed are multi-disciplinary and are sector-agnostic. Out of the 21 start-ups, 3 are Women-led start-ups. Majority of the start-ups are incubated in Innovation Hubs, Centres of Excellence (CoEs) and Technology Business Incubators (TBIs) supported by GoK and anchored by C-CAMP, IISc & associations like NASSCOM and IAMAI.

Quiz Competitions

- ❑ **Rural IT Quiz :** The 23rd edition of the Rural IT Quiz was conducted. 4.5 lakh students from 28 States & 5 Union Territories Representing 350 districts. Students from as far as - Lakshadweep, Jammu & Kashmir, Arunachal Pradesh, Assam, Manipur & Nagaland participated in event, the footprint of the programmer.
- ❑ **Bio Quiz :** 15th edition conducted of state Bio Quiz competition to National Level offering an opportunity to showcase to the world, the talent of our country in the fast growing area of Biotechnology.

BIO Posters- Walk way of Discovery

Popular amongst Young Researchers, Poster Session showcases innovative ideas, outstanding research, ground-breaking studies undertaken by young minds from Research Institutes and Universities that have the potential to make a significant impact in the field of Life Sciences & Biotechnology.

- ❑ This season Bio tech Posters from 104 Young Researchers were presented at the Walk way of Discovery session.

Beyond Bengaluru

In India, 30% of the overall GDP is driven by the digital economy. This initiative of the Beyond Bengaluru mission of KDEM, will focus on hosting 5,000 IT companies and start-ups by 2026 in the Mysuru, Hubballi and Mangaluru clusters and creating Employment opportunities for 10 Lakh (direct and indirect) candidates by 2026.

The program was aimed at enhancing growth in the IT /ITeS, Business Processing Outsourcing (BPO), ESDM, and Telecom sector industries located in emerging technology clusters in Tier II & III cities across the State. Each of these two events saw a great positive response from the industry associations like IESA, NASSCOM, ASSOCHAM, TiE chapters, CII, and so on. There have been multiple impactful MoUs signed by the KDEM during

these events. Also, the entire stakeholder set-up in the Beyond Bengaluru clusters was reached out pre-event which included trade associations, local industry chambers, incubators, accelerators, R&D units, start-up communities, co-working spaces, colleges etc. Total Amount Sponsored for 25 events in the financial year 2022-23 was Rs. 4.275 crore.

GAFX -2022

Bengaluru GAFX Conference is India's most prominent & largest annual event for Games, Animation & Visual Effects Industry hosted by Government of Karnataka and organized by ABAI. The event strives to attract top subject matter experts, studios, production houses, game developers and the best content & projects from all over the world to provide exposure and know-how to the professionals, artists and students. The event offers one of its kind platform for professionals, artists and students to showcase their talent, get recognized on India's largest platform connect with top employers from all over the world. The endeavour is to enrich, energize, inspire and create a vibrant ecosystem.

INDIA'S LARGEST DEDICATED AVGC EVENT GAFX -2022

Karnataka Animation Visual Gaming and Comics (KAVGC) Policy 2017-22

Karnataka State, especially Bengaluru, is known world-wide for its IT prowess. The media and entertainment sector has also benefited from the ecosystem of Bengaluru. The AVGC sub-sector has particularly thrived in Bengaluru on the technology strengths and the availability of talent in the city. Karnataka State is the first in the country to announce a separate policy for AVGC sector in the year 2012 vide Government Order dated 07.01.2012 read above. After completion of five years of the policy, it was felt necessary to revisit and frame a fresh policy for the KAVGC sector, keeping in view the changing needs of the industry and in view of the technological innovations happening in the sector. Accordingly, the Government Vide GO No. ITD 13 PRM 2016 Bangalore dated 28.7.2017 brought out the new KAVGC Policy 2.0.

The new Policy aims to foster the AVGC industry to build sustainability, scale and critical mass, and support the development of creative in the State. To facilitate various objectives of the policy, a host of incentives and concessions will be applicable for the industry throughout the policy period.

Centre of Excellence in AVGC

The Centre of Excellence for AVGC provides state of art facility that will provide the industry in Bengaluru and Karnataka a holistic technological boost in all aspects of AVGC sector. Centre of Excellence in AVGC sector has AVGC Postproduction Lab and AVGC Finishing School at a single location, which is providing unique advantage as the Graduates of Finishing School will eventually move to the IP Creation, Innovation, R&D and Incubation Centre. This co-location helping in building the ecosystem and creation of Centre of Excellence in AVGC to global standards.

The COE has a digital post-production lab with technologies such as motion capture, 2D and 3D animation and high-speed rendering. The COE has a Finishing School for the AVGC sector, which will also be set up in collaboration with industry associations. The AVGC

Postproduction Lab will help industry from the hurdles faced by the small and medium studios and freelance artists and the AVGC Finishing School shall ensure regular supply of highly skilled manpower to cater to the emerging sector of original IP creation and sophisticated outsourced international projects coming into the Indian AVGC industry.

Digital Arts Centres (DAC) PHASE II

DAC project

- ❑ DAC to help traditional fine arts colleges embrace digital. GoK is supporting Fine Arts Colleges across Karnataka to embrace digital by providing grants to set-up digital labs.
- ❑ ABAI-DAC is anchoring this project for GoK and is facilitating the process and helping with training, curriculum, and industry alignment.
- ❑ Finishing School to create production ready plug and play talent. ABAI has put forth a unique, 1st of its kind proposal which has received a green light from GoK and is in the works.
- ❑ Centre for Artists & Talent Development to foster a vibrant community. ABAI is working on this path breaking proposal by conducting event such as DAS (Digital Art Symposium)
- ❑ Digital Painting, Graphic designing, 2D Animation, Motion graphics, Digital sculpting, 3D Character Animation, Rotoscopy, Photography, Video editing, Houdini & VFX are training curriculum for DAC colleges

3.5 EXPORTS AND IMPORT OF KARNATAKA

Karnataka has a long tradition of overseas trade. Historically, Karnataka has been a major exporter of commodities like coffee, spices, silk, cashew nuts, handicrafts and Agarabattis. In the last two decades, the State has emerged as a major player in the export of electronic and Computer Software, Engineering goods, Readymade Garments, Petrochemical, Agro and Food Processing products, Chemicals, Minerals and Ores, Marine products, etc. Karnataka has carved out a niche for itself in the global marketplace as the knowledge and technology capital of the Country. The State has made rapid and spectacular strides in the new economy. Information technology, biotechnology and research and development institutions have enhanced Karnataka's achievements at national and global levels. Karnataka accounts for more than one third of electronics and computer software exports from the country. It is also a leader in exports of Coffee and Spices, Petrochemicals and Engineering commodities from Southern Region.

Karnataka ranks 1st in Software/ Service exports and stands 4th in Merchandise exports in the National export basket. The State stands second in the overall exports with combined Service and Merchandise exports. Visvesvaraya Trade Promotion Centre (VTPC) under the aegis of Department of Industries and Commerce, Government of Karnataka is the Nodal Agency for promotion of export from the State. The analysis of export data is being carried out based on the data provided by the Director General of Commercial Intelligence and Statistics (DGCIS), Kolkata.

Karnataka's overall exports (Rs. 9,517,93.69 crore) have increased by 36.5% during 2021-22 as compared to the year 2020-21, a record in 7 years exports. Karnataka's exports

in terms of value in 2019-20, 2020-21, 2021-22 and 2022-23 (April to September) are shown in **Table 3.9**.

Karnataka's exports amounted to about Rs. 9,51,793.69 crore in 2021-22 which constituted about 18.90% of the Country's exports in the year. The share of Merchandise exports in the National exports constitutes around 6.13% and Software/ Service exports around 41 % for the year 2021-22. Exports of electronics and computer software and other service sector constitute the largest share in the State's exports. The other commodities which registered good increase in share of Karnataka's exports in 2021-22 as compared to 2020-21 are Engineering Products, Pharmaceuticals, Agriculture and Food Processing sector and Petroleum products. Decline in exports in comparison to 2020-21 were witnessed only in the case of Cashew and Cashew Kernel sector due to low productivity and lower prices in the international market. All other sectors recorded increase in State export performance.

Merchandise Exports during the period April to September 2022-23 as compared to April to September 2021-22 witnessed a 26 % growth. Services Exports during the year April to September 2022-23 as compared to April to September 2021-22 registered a 30% growth.

Table 3.9 Export Performance of Karnataka

(Value in Rs. crore)

Sl. No.	Commodity	2019-20	2020-21	2021-22	2022-23 (April to Sept)
1	Electronics and Computer Software	593422.70	586302.00	758734.75	475459.44
2	Petroleum	18025.00	7405.85	33215.83	39668.52
3	Engineering	35535.20	42290.11	69681.64	28875.50
4	Others	10103.16	10503.71	20189.82	12166.23
5	Readymade Garments	15707.11	12336.39	17512.49	10653.58
6	Basic Chemicals, Pharmaceuticals & Cosmetics	13431.10	15180.14	23518.83	8403.50
7	Agriculture & Processed food including seeds & beverages	5128.11	7247.71	11312.23	6181.83
8	Coffee	2767.15	2982.20	4409.43	2908.47
9	Iron Ore and Minerals	2209.26	2689.75	3935.09	1353.73
10	Plastic Goods	1222.13	1455.65	2407.91	1028.13
11	Marine Products	1048.72	1118.06	1599.96	853.86
12	Chemicals & Allied Products	702.26	694.42	1019.53	607.53
13	Spices	509.76	807.64	1327.96	513.95
14	Gems and Jewellery	351.73	182.26	414.00	508.39
15	Handicrafts	1353.62	784.62	955.98	399.78
16	Leather Products	502.28	331.29	463.84	281.23
17	Cashew & Cashew Kernels	797.92	668.15	658.13	241.64

Sl. No.	Commodity	2019-20	2020-21	2021-22	2022-23 (April to Sept)
18	Silk Product	283.80	290.82	424.72	189.60
19	Wool & Woollen Products	4.84	5.11	11.55	17.37
	Total	7,03,105.85	6,93,275.88	9,517,93.69	5,90,312.28

Source: DGCIS-Kolkata

Principal Commodity wise export from Karnataka

Karnataka's Principal Commodity wise export for 2021-22 is highest for Petroleum Products being USD 4016.90 million and the least being USD 1.08 million for Coir and Coir Manufactures with total export size being USD 25874.43 million with comparison to the year 2020-21 is USD 15140.39 million with a tremendous growth of 70.90%.

Agriculture Commodity Exports from Karnataka

Karnataka's exports in Agriculture Commodity amounted to about USD 1299.84 million in 2019-20 and USD 1581.72 million in 2020-21 with a significant increase of 21.7%. In Agriculture Commodity, Milling Products tops the list with 562.68% increase and Preparations of cereals, flour, starch or Milk being the lowest in the list at 3.42%. The agriculture commodity exports from Karnataka is shown in **Table 3.10**.

Table 3.10 : Agriculture Commodity Exports from Karnataka – Comparison Between 2019-20 and 2020-21
Value in USD million

Sl. No.	Commodity	2019-20	2020-21	Difference
1	Dairy products including Honey	12.34	13.11	0.77
2	Live trees, Flowers and plants	5.93	7.96	2.03
3	Edible vegetables	57.11	80.33	23.22
4	Edible fruits and nuts	135.34	113.71	-21.63
5	Coffee, Tea, Mate & spices	439.60	490.52	50.92
6	Cereals	27.10	130.43	103.33
7	Milling products	5.60	37.11	31.51
8	Oil seeds, grains, medicine plants	61.09	65.68	4.59
9	Lac, gums, Resins etc	150.94	143.98	-6.96
10	Vegetable plaiting materials	4.74	2.08	-2.66
11	Animal or vegetable fats, oils	6.33	5.53	-0.8
12	Edible preparation of Meat, Fish	0.30	0.12	-0.18
13	Sugar and confectionery	141.12	201.33	60.21
14	Cocoa & cocoa preparations	9.99	5.38	-4.61
15	Preparations of cereals, flour, starch or Milk	13.74	13.27	-0.47
16	Preparations of vegetables, fruits and Nuts	119.44	148.80	29.36

Sl. No.	Commodity	2019-20	2020-21	Difference
17	Miscellaneous edible preparations	95.54	108.29	12.75
18	Beverages, spirits & Vinegar	13.59	14.09	0.5
	TOTAL	1299.84	1581.72	281.88

Policy supports for exports

Foreign trade is in the Central List of the Indian Constitution. The Government of India is empowered to formulate all rules and regulations for foreign trade applicable for the country as a whole. The role of the State Government is complementary by way of providing supportive and special promotional measures for promoting foreign trade, especially in regard to exports of goods and services.

The State has been providing various incentives & concessions to the MSME sector to compete in the international market. The State Government has announced various initiatives along with incentives and concessions for the promotion of exports in the New Industrial Policy 2020-25.

Promotional Activities Organized by VTPC

- ❑ Market Development Assistance to Micro and Small Manufacturing units, Artisans for participation in domestic trade fairs and exhibition.
- ❑ Participation in National/International Exhibitions & Trade Fairs.
- ❑ Secretariat services for promotion of Special Economic Zones (SEZs) and Export Oriented Units (EOUs) in the State

Capacity Building programmes

VTPC also conducts IPR/GI Awareness Programs through its IPR initiatives. From April 2022 to November 2022, VTPC conducted a total of 4 EMTP/EDP programs, 4 Agri Export Training Programs, 20 Export Awareness Programs/ Seminars/ Workshops/ Stakeholders Outreach and 14 IPR Awareness and GI programs.

Geographical Indications (GI) Policy

GI Policy which aims to protect the traditional legacies of the State, assist and support infrastructure development required to strengthen the GI clusters in the State. Karnataka is home to a total of 46 Registered GIs as on date. Further, through the Authorised User drive undertaken by VTPC, the Authorised User base across GI products in Karnataka currently stands at 596. GI artisans are being provided impetus and a platform through Trade Fairs and Exhibitions, with a spotlight to GI tagged products at IITF, IGIF, etc. VTPC on behalf of the State has filed a new GI – Patteda Anchu Saree & Fabrics, falling under the handicraft classification of GI Registry. Specific GI products have also been identified and mapped for promotion as part of the Atma Nirbhar vision of Govt. of India, like the ODOP, District as Export Hubs, etc.

SEZs in Karnataka

Karnataka has 36 operational SEZ's with an investment of Rs. 1,06,524 crore and generating employment for 4,00,170 persons. There are 485 SEZ units working in these SEZ's.

Imports of Karnataka

Top 30 import commodities data from major 3 ports of Karnataka state for the year 2021-22 is given in the **Table 3.11** Karnataka's imports is highest with USD 6394.29 million for petroleum crude oil and lowest for Plastic materials and other commodities with USD 26.55 and USD 21.43 million, respectively.

Table 3.11: Top 30 Import Commodities of Karnataka for the year 2021-22

Sl. No.	Port	Commodity	Value (USD million)
1	NMPT	Petroleum: Crude	6394.29
2	BIAL	Computer Hardware, Peripherals	2453.26
3	NMPT	Petroleum Products	2088.15
4	BIAL	Electronics Components	1565.59
5	BIAL	Telecom Instruments	1351.08
6	NMPT	Vegetable Oils	1018.28
7	BIAL	Electronics Instruments	999.68
8	BIAL	Gold	817.98
9	NMPT	Coal, Coke and Briquettes, Etc.	598.03
10	BIAL	Medical And Scientific Instruments	524.86
11	BIAL	Electric Machinery and Equipments	459.07
12	NMPT	Cashew	451.82
13	NMPT	Fertilizers Manufactured	257.70
14	BIAL	Other Commodities	255.64
15	BIAL	Industrial Machinery for Dairy, Etc.	244.64
16	B-ICD	Electronics Components	221.00
17	BIAL	Consumer Electronics	194.03
18	B-ICD	Electronics Instruments	166.71
19	B-ICD	Industrial Machinery for Dairy, Etc.	156.47
20	NMPT	Ship, Boat and Floating Structures	146.62
21	B-ICD	Copper And Products Made Of Copper	120.73
22	B-ICD	Electric Machinery And Equipments	118.40
23	B-ICD	Other Miscellaneous Engineering Items	114.67
24	B-ICD	Plastic SHT, Film, PLTS, Etc.	84.77
25	NMPT	Organic Chemicals	83.41

Sl. No.	Port	Commodity	Value (USD million)
26	B-ICD	Machine Tools	81.13
27	B-ICD	Plastic Raw Materials	80.07
28	B-ICD	Aluminium, Products Of Aluminium	63.37
29	NMPT	Plastic Raw Materials	26.55
30	NMPT	Other Commodities	21.43
		Total	21159.43

3.6 ACHIEVEMENTS

- ❑ Exports contributed about 40% of the State's Gross State Domestic Product (GSDP) with electronic, computer software and biotechnology contributing a major portion of the exports.
- ❑ About 393 Investment projects worth Rs. 2.37 lakh crore has been approved with the generation of employment to the tune of 1.95 lakh during April 2022 to December 2022.
- ❑ The state attracted USD 39.36 billion FDI equity inflow over the period October 2019 to September 2022 which is 23% of the national share.
- ❑ Karnataka State (Rs. 41678 crore) stand second position on FDI inflows among 26 Indian States (Rs. 2,10,156 crore) from April 2022 to September 2022.
- ❑ State Government launched several start-up-focused funds that have a corpus of USD 47.3 million. Over 14,000 people have signed up on the Start-up Karnataka Portal as Start-ups, Mentors, Incubators, Investors, Institutes etc., and more than 2500 start-ups have been certified by Karnataka Start-up Cell so far, of which around 720 companies have been funded under Idea2PoC/ Elevate Grant-In-Aid Seed Funding scheme.
- ❑ Karnataka is home to over 5500+ IT/ITES companies, ~750 MNCs contributing to over USD 58 billion of exports, giving direct employment to over 12 lakh professionals and creating over 31 lakh indirect jobs. The industry contributes to over 25% of the State's GDP. The share of Karnataka in Information Technology exports is nearly 40% of the country's exports of USD 155 billion.
- ❑ Karnataka's Bio Economy recorded 15% Year over Year (YoY) growth in 2022 and valued at USD 18.9 billion.
- ❑ Bengaluru takes pride in its well-deserved status as the start-up capital of India as 40 out of 100 unicorns of India are housed in Bengaluru.
- ❑ 30% of the overall GDP is driven by the digital economy. This initiative of the Beyond Bengaluru mission of KDEM, will focus on hosting 5,000 IT companies and start-ups by 2026 in the Mysuru, Hubballi and Mangaluru clusters and creating Employment opportunities for 10 Lakh (direct and indirect) candidates by 2026.
- ❑ State ranks 1st in Software/ Service exports and stands 4th in Merchandise exports in the National export basket.

- ❑ Karnataka's exports amounted to about Rs. 9,51,794 crore in 2021-22 which constituted about 18.90% of the Country's exports in the year. The share of Merchandise exports in the National exports constitutes around 6.13% and Software/ Service exports around 41 % for the year 2021-22. Exports of electronics and computer software and other service sector constitute the largest share in the State's exports.
- ❑ State's Principal Commodity wise export for 2021-22 is highest for Petroleum Products being USD 4017 million and the least being USD 1.08 million for Coir and Coir Manufactures with total export size being USD 25874 million with comparison to the year 2020-21 is USD 15140 million with a tremendous growth of 70.90%.
- ❑ State's exports in Agriculture Commodity amounted to about USD 1300 million in 2019-20 and USD 1582 million in 2020-21 with a significant increase of 21.7%.
- ❑ Under KESDM 2013 Policy, 72 companies have been registered . Incentives to the tune of Rs. 14.57 crore have been disbursed till date to the registered KESDM Companies apart from other concessions given to the companies.
- ❑ Launched 21 innovative products/solutions by start-ups. The innovative products/solutions developed are multi-disciplinary and are sector-agnostic. Out of the 21 start-ups, 3 are Women-led start-ups. Majority of the start-ups are incubated in Innovation Hubs, Centres of Excellence (CoEs) and Technology Business Incubators (TBIs) supported by GoK and anchored by C-CAMP, IISc & associations like NASSCOM and IAMAI.
- ❑ Government of Karnataka has set up K-Tech Innovation Hubs across the State in identified areas. It is great to note that 101 teams across 4 centres and around 50 seats have been occupied by women. 500+ direct jobs have been created and the program has reached more than 1500 innovators.

3.7 WAY FORWARD

Actions needed to maximize the State's economic growth including improving Ease-of-Doing Business and Ease of Living to enhance and strengthen competitiveness in attraction of both domestic and foreign investments, and higher exports.

- ❑ The Government has brought out IT Policy, where in several incentives are being offered to new IT / ITeS and other knowledge-based sectors to set up their facility in Tier 2/3 Cities across Karnataka through incentives on land, stamp duty and taxes.
- ❑ Government has set up 1.25 lakh sq. ft. area of K-Tech Innovation Hubs in various parts of Karnataka managed by NASSCOM, IAMAI and Bangalore Bio-innovation Centre.
- ❑ An initiative of Beyond Bengaluru mission of KDEM, will focus on hosting 5,000 IT companies and start-ups by 2026 in the Mysuru, Hubballi and Mangaluru clusters and creating Employment opportunities for 10 lakh (direct and indirect) candidates by 2026.
- ❑ Elevate Women Entrepreneurship program supports women entrepreneurs across the entrepreneurial lifecycle and create an enabling ecosystem to enhance participation of women in entrepreneurship.

- ❑ Idea2PoC – a scheme to provide early stage funding to ideas or concepts which are yet to establish the proof of concept in the real world. Till date, 14 calls have taken place and 720 Start-ups/ Ideas have been selected for funding.
- ❑ Karnataka has set an ambitious target to achieve the USD 50 billion BioEconomy by 2025, a lion's share of the USD 100 billion target of national BioEconomy. IT & BT Department will continue to focus on simplified administrative and easy clearances to create an enabling environment for companies to invest across the biotech value chain.
- ❑ NAIN provides grant to select higher education institutions across Tier - II & Tier - III cities of Karnataka to promote Entrepreneurship and also to foster innovation. The project idea funded by NAIN focuses on solving local problems and nurtures new ideas on fin-tech, clean-tech, edu-tech etc. Under the NAIN program, Government of Karnataka has been able to setup District Innovation Hubs across 30 colleges in 18 districts of Karnataka. The total grant of Rs. 10.35 crore has been released.
- ❑ Karnataka's Electronics Systems Design and Manufacturing Policy 2017-22 has created 20 lakh new jobs in the ESDM industry by 2025. Effect a quantum jump in the overall revenues of Karnataka's ESDM companies to USD 40 billion by 2025. Significantly grow the ESDM exports from the state to USD 16 billion by 2025.
- ❑ State government can connect with investors over global platforms (Global Investor Meet, Defence Expo) to bring in investments to the state. Showcasing the Advantages for Karnataka as a destination of domestic and foreign investment through global investors meet is important.
- ❑ Top 30 imports valued around USD 21159 million. To reduce imports, import substitution to be encouraged through providing incentives and relaxations like computer hardware and peripherals, electronic components, vegetable oils, cashew, organic chemicals
- ❑ Karnataka's policies and programmes for attraction of private Indian and Foreign investments are based on complementarity between (a) Public (Union, State and Local Government) investments and private investments and (b) total (public and private) investments and exports. Karnataka's performance in attracting private and foreign investments and increasing exports in both traditional and modern sectors are contributory to attainment of higher economic growth (or GSDP) and productive employment generation. This approach leads to a Karnataka model of investment and export.

4.1 INTRODUCTION

Rural Development is the process of improving the quality of life and economic well-being of people living in rural areas. An emphasis on Rural Development is essential given that the majority of the population (61% of Karnataka's population) continue to live in rural area. The proportion of rural population to total population is declining over the time. The decline is faster in Karnataka as compared to India. With economic development, the shift of labour from agriculture to other sectors has gathered momentum in last two decades. Therefore, India and Karnataka are still largely rural agrarian economies. Therefore, the focused approach to promote rural development is the real path to achieve the desired goals in economic as well as human development.

Decentralised planning for the economic development and effective implementation of Rural Development Programmes is crucial, as it results in achieving improved service delivery. At present the state has 5954 Grama Panchayats, 238 Taluk Panchayats and 31 Zilla Panchayats.

After the 73rd Amendment to the Constitution, Karnataka was the first State to pass a new legislation in 1993, viz., The Karnataka Panchayat Raj Act, 1993. With the 73rd Constitutional Amendment 1993 the Panchayat Raj Institutions have acquired a statutory status, become integral part of our polity and more importantly, they have been recognized as 'institutions of self-government'. They have been given the important responsibilities of preparation and implementation of Plans to ensure economic development in rural areas and to ensure social justice in the distribution of benefits of such development process.

4.2 RURAL DEVELOPMENT PROGRAMMES

The Important basic requirements for any village for healthy living are, clean drinking water, cleaning and lighting of roads, medical facilities, primary education for children and roads for transportation etc. Development of rural areas has a bearing on improving agricultural production and related economic activities, availability of natural and financial resources and their development. The rural development programmes focus on providing quality life to the rural people through provision of housing, drinking water, sanitation, roads and connectivity and employment.

The limitations of Panchayats are scarcity of resources, lack of participation by the youth and interference of the political class.

The Panchayats can be strengthened, if efforts have been made to devolve funds, functions and functionaries to panchayats, by the government, then panchayats can plan for economic development and social justice schemes. The Panchayats can be strengthened by giving more powers in the areas of fuel and fodder, non-conventional energy sources, rural electrification including distribution of electricity, non- formal education, small scale industries including processing industries, technical training and vocational education.

Proper monitoring is a must in release of the Finance Commission Grants released from Government to Panchayats, in turn to be used to support and strengthen the delivery of

various basic services like water supply, sanitation, sewage and solid waste management etc. Panchayats to be carried out local audits regularly for ensuring of the funds utilized. Panchayats are to be made more strengthened by giving capacity building and training in preparation of Grama Panchayat Development Plan. Recruitment and appointment of support and technical staff to made for smooth functioning of Panchayats.

For the development of rural areas, Rural Development and Panchayat Raj Department is implementing various programme as mentioned in **Table 4.1**.

Table 4.1 : Details of Schemes of Rural Development and Panchayat Raj Department
(Rs. in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Rehabilitation of Bonded Labour [Corpus fund to all DCs]	3.00	3.00	0.00
Rural Energy Institutions of RDPR(MGIRED)	6.40	4.80	6.37
Panchayath Raj Commissioner-Establishment	5.40	5.53	4.29
Karnataka State Decentralization Programme and other Rural Development Activities	29.78	15.66	7.23
Elections to PRI Institutions	172.00	2.47	1.35
State Election Commission	12.39	12.27	8.77
RDPR Computerisation	10.00	10.30	7.18
Pradhan Mantri Grama Sadak Yojane-Road Maintenance	81.52	61.14	52.86
Amrutha Grama Panchayati Yojane-Incentives to GPs	187.50	180.96	115.21
Management Support to Rural Development Programme and Strengthening District Planning Process (SIRD)	15.92	16.18	11.30
Karnataka Panchayat Raj University, Gadag	2.58	1.94	1.13
Namma Grama Namma Raste Scheme (NGNRY) and other Rural Road Schemes	120.00	90.00	94.57
KRRDA-Project Division & Sub Division	52.66	38.87	35.98
Karnataka Rural Roads Development Agency	3.43	3.43	2.10
Karnataka Panchayath Raj University, Gadag	8.00	6.00	6.00
Panchayat Raj Institution's Buildings	10.00	6.34	3.39

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	3.59	1.49	0.99
Repairs & Rejuvenation of Tanks - RDPR	5.00	0.00	0.00
Restoration and Rejuvenation of ZP Tanks	57.49	0.00	0.00
Grameena Sumargha (including Namma Grama Namma Raste Scheme (NGNRY))	2217.13	1415.28	1313.75
Gram Panchayat Libraries & Information Center	80.98	60.30	58.57
Rehabilitation of Bonded Labourers	4.22	0.00	0.00
DRDA - Administrative Charges	13.73	6.19	5.70
Vacant Posts & Other Expenses	200.06	9.97	11.14
Zilla Panchayat Maintenance Grants	99.82	103.26	105.99
Construction and Maintenance of Zilla Panchayat Office Buildings	46.99	17.32	13.88
Maintenance Grants to ZPs including Consolidated Salaries	18.44	0.00	0.00
XV FCG Grants to ZPs (60% Tied : 40% Basic)	158.81	35.66	34.75
Maintenance Grants to TPs including Consolidated Salaries	943.43	856.29	417.68
SFC Development Grants to TPs	516.38	370.95	73.89
Vacant Posts & Other Expenses	490.00	94.27	20.64
Honorarium to President, Vice President & Members of Taluka Panchayaths	18.34	0.00	0.00
XV FCG - Grants to TPs (60% Tied : 40% Basic)	317.61	71.31	70.97
XV FCG Grants to GPs (60% Tied : 40% Basic)	2699.69	1862.27	2904.16
SFC Development Grants to GPs	1203.42	601.61	902.41
Payments Under The Karnataka Guarantee of Services Act - Compensatory Cost	0.50	0.00	0.00
Royalty on Sand Mining to be Passed on to GPs	35.00	5.31	5.04
Grants to Grama Panchayaths for Securitization of Electricity Dues	680.20	498.55	424.55
Honorarium to President, Vice President & Members of Grama Panchayaths	136.94	89.84	69.57

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Maintenance Grants for Rural Roads	218.73	65.87	120.73
Special Grants for Rural Roads	242.44	68.72	119.07
Chief Engineer, Panchayathraj Engineering Department	18.73	13.36	11.12
ZP Establishment Charges of Panchayath Raj Engineering Department	225.62	168.86	159.36
Maintenance and Repairs of Panchayath Raj Engineering Department	31.28	18.98	13.81
Supplies for Panchayath Raj Engineering Department	3.06	1.55	0.29
Mahatma Gandhi National Rural Employment Assurance Scheme-Establishment	2.81	2.48	0.71
Rural Water Supply and Sanitation Department	146.21	134.66	106.71
Rural Water Supply Scheme including Jaladhare	278.39	99.39	147.39
Repairs and Maintenance of Rural Water Supply Scheme	5.72	3.68	0.11
Supplies of Rural Water Supply Scheme	1.81	1.11	0.01
CSS - Jal Jeevan Mission (Rural Water Supply Scheme)	5200.00	1648.79	2962.27
CSS - Prime Minister Grameena Sadak Yojana	967.00	689.93	934.36
CSS - Mahatma Gandhi National Rural Employment Assurance Scheme	1545.00	1270.47	2606.32
CSS - Rashtriya Gram Swaraj Abhiyan (RGSA)	60.00	60.00	24.39
CSS - Shyama Prasad Mukherjee Rurban Mission	33.64	52.62	44.02
CSS - Swachha Bharath Mission (Grameena)	416.00	2.60	77.53
Total	20064.79	10861.83	14119.63

Source : Avalokana report as on 20th Jan 2023

During 2022-23, an amount of Rs. 20064.79 crore is provided in the budget. Rs. 10861.83 crore has been released and Rs. 14119.63 crore (by utilising opening balance funds) is spent under various programs upto the end of 20th Jan 2023, of which Rs. 13350.36 crore is productive expenditure.

The main challenges are, the institutes face lack of finance, the lack of finance resources hinders their functions and growth. As there is very little devolution of authority, Panchayat Raj Institution can't govern unless they are given the authority to perform functions related to governance.

Lack of Resources: There are infrastructure gaps at training centres like, shortage of computers and satellite communication facility, poor amenities for residential training etc., Training and capacity building by superior officials, as an essential prerequisite for efficient functioning of GP's. Specialized approaches like adult learning or experimental training may be adopted. GP members get training once they elected. After getting the training, proper monitoring of their understanding or performance has to be made.

Rural Housing

Housing is a basic need and essential security for every human being. In order to meet the growing demand for housing, government is pro-active in the formulation of housing policies and implementation of housing schemes.

As per the Socio Economic and Caste Census 2011, 40.62 lakh are houseless households in rural areas. District wise details are given in **Appendix 4.1**.

During 2022-23, an amount of Rs. 3637.98 Crores (including Urban Housing) is provided in the budget. Rs. 2341.41 crore has been released and Rs. 2374.97 crores (by utilising opening balance funds) is spent under various programs upto the end of 20th Jan 2023, of which Rs. 2344.68 Crore is productive expenditure. During the current year 93,674 houses have been constructed and 1099 house sites have been distributed up to the end of November 2022. List of various housing programmes are given below in **Table 4.2**.

Table 4.2: Details of schemes of Housing Department

(Rs. in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Vajpayee Urban Housing Scheme	300.00	100.00	86.99
Releases under Karnataka Real Estate(Regulation and Development) Act, 2016	8.58	11.06	10.61
Infrastructure facilities for Housing Schemes/Projects	150.00	112.50	20.02
Pradhan Mantri Awas Yojana-Urban	464.41	718.85	229.42
Payment of Government Guarantee Commission- Rajiv Gandhi Rural Housing Corporation	11.53	0.00	11.53
Ashraya-Basava Vasathi	825.00	250.00	689.43
Repayment Ashraya Loan & Payment of Interest	96.25	71.68	75.81
Dr. B.R.Ambedkar Nivas Scheme	755.00	250.00	494.58
Rajiv Gandhi Rural Housing Corporation	8.64	5.87	6.01

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
D.Devraj Urs Housing Scheme	175.00	175.00	86.60
Establishment Charges for KSDB	30.50	24.15	13.65
Improvement of Slums	100.00	75.00	61.07
Repayment of Ashraya Loan (Principal) - RGRHC	263.07	197.30	197.30
CSS-State Contribution under convergence of Dr BR Ambedkar Housing Scheme with PMAY(U)	250.00	250.00	245.00
CSS-State Contribution under convergence of Vajpayee Housing Scheme with PMAY(U)	100.00	100.00	100.00
CSS - Pradhan Mantri Awas Yojane Grameena	100.00	0.00	46.93
Total	3637.98*	2341.41*	2374.97*

Source : Avalokana report as on 20th Jan 2023

* Allocation includes Urban Housing also.

Rajiv Gandhi Housing Corporation Limited (RGHCL) has been established as a nodal agency to implement all the State and Central Government Sponsored housing schemes for economically and socially weaker sections of society, both in rural and urban areas. From 2000-01 to 2022-23 up to the end of November 2022, totally built 47.53 lakh houses (43.96 lakh houses in rural & 3.57 lakh in urban areas) and 3.60 lakh sites have been distributed (2.20 lakh in rural area & 1.40 lakh in urban areas) by investing of Rs. 38,826.30 crores (Including Urban), of which Rs. 12,859.86 crores on centrally sponsored and Rs.25,966.44 crore on the state sponsored housing schemes. The details of scheme-wise houses completed and sites distributed in rural areas are as below **(Table 4.3)**.

Table 4.3 : Details of Houses Constructed and House Sites distributed under different Rural Housing Schemes

Year	Rural Ashraya/ Basava Vasathi Yojane	Rural Ambedkar	Devraj Urs Housing Scheme	Dr. B.R. Ambedkar Nivasa Yojane	IAY/ PMAY (G)	Total	Rural House Sites
2000-13	1551165	156380			637125	2344670	173494
2013-14	207594	4101			98815	310510	4279
2014-15	185073	3313			104098	292484	8140
2015-16	113375	2704	4739		100514	221332	8021
2016-17	123535	0	14183	12813	96030	246561	6202
2017-18	127751	220	15634	95660	64690	303955	9047

Year	Rural Ashraya/ Basava Vasathi Yojane	Rural Ambedkar	Devraj Urs Housing Scheme	Dr. B.R. Ambedkar Nivasa Yojane	IAY/ PMAY (G)	Total	Rural House Sites
2018-19	147081	44	6783	58883	56136	268927	3002
2019-20	64179	18	2782	24994	14682	106655	2537
2020-21	61651	0	2896	27014	11536	103097	2217
2021-22	56724	0	4800	29670	13389	104583	1829
2022-23**	50024	0	7519	22434	13697	93674	1099
TOTAL	2688152	166780	59336	271468	1210712	4396448	219867

** Figures are shown up to November 2022

The details of district wise houses constructed and sites distributed in Rural areas under Basava Vasathi Yojane, Pradhna Mantri Awas Yojane (G), Devraj Urs Housing Scheme, Dr.B.R. Ambedkar Nivas Yojane for the last three years as well as current year (up to end of November 2022) are furnished at **Appendix 4.2 to 4.6.**

4.3 RURAL INFRASTRUCTURE

Karnataka Rural Infrastructure Development Ltd (KRIDL)

The Karnataka Rural Infrastructure Development Ltd (KRIDL) aims to undertake and carry out all types of rural development works either entrusted to it by the government departments, local bodies and other institutions, individuals etc., to provide assistance, advise and services including capital resource and technical managerial and other services. It also aims to eliminates middlemen (contractors) in the construction of rural development works to avoid exploitation of the rural poor, thereby passing on the full worth of money to the people.

KRIDL concentrates on labour intensive infrastructure works which are vital for development by providing employment opportunities to rural unemployed and under employed to improve their economic condition. It undertakes civil construction of tanks, irrigation works, low cost housing, roads, culverts and buildings etc. in rural areas employing rural youth. The works are being executed directly at Government Scheduled Rates without the involvement of contractors.

During 2021-22, KRIDL has achieved turnover of Rs.2916.52 Crores with a net profit of Rs.124.24 crores. During the year 2022-23, the agency has achieved a progress of Rs.2060 crores (provisional) and expected profit is Rs. 171 crores up to end of November 2022.

Major recommendations

- KRIDL needs to be better utilize its significant cash reserves and fixed assets.
- Existing equipment/ machinery/ infrastructure should be upgraded and put to use. Old workshops should be revived so that material can be procured, and their repairs can be done in house.

- ❑ Leasing/renting arrangements for existing fixed assets such as land, buildings can be explored for earning regular income. Surplus cash can be invested in higher return earning instruments like reliable mutual funds, long term pension funds, etc.
- ❑ Implementing Enterprise Resource Planning (ERP) solution across key modules such as Engineering, Material management, Contract management, financial accounts, Tender management, and MIS. This will help to provide a single, seamless and integrated data view across the company and improve accuracy and timeliness of business processes.

15th Finance Commission Grants

15th Finance Commission Grants have commenced from 2020-21 and will be effective up to 2024-25. The recommended grants are in two parts namely, basic and tied grants. Basic Grants are untied and can be used by Rural Local Bodies for location specific needs except salary. The tied grants are to be used for the basic services of sanitation and maintenance of Open-Defecation Free (ODF) status and supply of drinking water, rainwater harvesting and water recycling.

For the year 2022-23, an amount of Rs.2463.00 crore have been provided to Rural Local Bodies by the 15th Finance Commission, of which the amount allocated to Gram Panchayat, Taluk Panchayat and Zilla Panchayat is Rs.2093.55 Crores (85%), Rs. 246.30 Crores (10%) and Rs.123.15 Crores (5%) respectively.

For the year 2022-23, an amount of Rs.1652.91 crores, Rs.71.31 crores and Rs.35.65 crores have been released to the Gram Panchayats, Taluk Panchayats and Zilla Panchayats of the State respectively and completely utilized up to the end of November 2022 for the proposed activities.

Rural Water Supply

Rural Water Supply schemes are taken up to provide adequate and safe drinking water to rural population. The vision for the rural drinking water supply in the strategic plan of the Ministry is to cover all rural households with safe piped drinking water supply @ 70 lpcd and there is a large population that has to be provided with higher service levels, as an interim measure the norm is 55 lpcd for human to meet the requirement.

i. Jal Jeevan Mission (JJM)

Government of India has launched “Jal Jeevan Mission” during 2019 in order to provide safe and adequate drinking water to all rural households. The main objective of this mission is to provide functional household tap connection (FHTC) to all the rural households on regular and long-term basis at affordable service delivery charges leading to improvement in living standards of rural communities by 2024.

Under centrally sponsored Jal Jeevan Mission, Government of Karnataka has launched the programme Called “**Mane Manege Gange**” and intended to provide Functional Household Tap Connections (FHTC) to all rural households at the rate of 55 LPCD in the State.

For 2022-23, it is targeted to provide 31.99 lakh FHTCs, 12.33 lakh FHTCs are provided by incurring an expenditure of Rs. 2203.52 crore up to the end of November 2022.

ii. Water Quality Monitoring and Surveillance Programme (WQM&SP)

Under Jal Jeevan Mission (JJM), water quality monitoring has been given utmost importance, as the water quality needs to be monitored on a regular basis to ensure potable water gets supplied to the rural households. There are about 2,20,000 rural public drinking water sources established in the State.

At present, there are 31 district level water quality testing laboratories and 48 Sub-divisional/Taluka level water quality testing laboratories in the state. These laboratories undertake analysis of totally 13 physico-chemical for the drinking water sources.

Field water testing kits have been distributed to all the 5954 Gram Panchayaths to test the water during pre-monsoon and post-monsoon seasons. Training is also imparted to village water and sanitation committee (VWSC) for testing water quality using the kits.

iii. Multi Village Scheme

Drinking water supply schemes under Jal Jeevan Mission (JJM) have been formulated in rural areas with surface water as source to tackle water quality problem. Habitations having ground water chemical contamination like Arsenic, Fluoride, TDS, Nitrate and Iron, the drinking water, will be supplied from nearest sustainable surface source after treatment. There are 211 MVS schemes are under progress with an estimated cost of Rs. 40,716.95 Crores. During 2022-23, it is to take up 139 MVS schemes with an estimated cost of Rs. 25,310.73 Crores

Recommendations

- (i) Scheduled water quality check
- (ii) Recharge defunct bore wells
- (iii) Automation of water supply
- (iv) Introduce incremental block tariff for bulk water supply and
- (v) Develop a ToT team and synchronization of water supply.

Rural Sanitation

1. Swachh Bharat Mission (SBM)-Gramin

Karnataka has been the forerunner in putting forth concerted efforts to implement total sanitation in the rural parts of the State. To accelerate and achieve universal sanitation coverage and to put focus on safe sanitation "Swachh Bharat Mission" was launched. The objectives of the SBM(Gramina) is to bring improvement in the general quality of life in rural areas by promoting, cleanliness, hygiene and eliminating open defecation. Ensure every Family, Schools and Anganwadis in rural areas to have access to toilet facilities.

During 2022-23, an amount of Rs. 61.98 crore has been spent as against the target of Rs. 416.00 crore and 9871 Individual Household Latrines and 87 Community Sanitary Complexes have been constructed as against the target of 1.14 lakh IHHL and 665 CSC respectively up to the end of November 2022.

Under Grey Water Management out of 26836 villages, 26542 DPRs are prepared and works started in 17113 villages an amount of Rs.106.00 crores have been releases to districts.

The biggest challenge is, to sustain the Open Defecation Free Status. In order to sustain the Open Defecation Free Status and to work on ODF-Plus activities, the State Government has obtained approval from the Union Cabinet for implementation of Swachh Bharat Mission-Gramin (SBM-G) Phase II from 2020-21 to 2024-25.

The key objective of Phase II is to sustain the ODF status of villages and to improve the levels of cleanliness in rural areas through solid and liquid waste management activities, making villages ODF Plus. The following ODF-S (Sustainability) and ODF-Plus activities are being undertaken.

1. Construction and usage of Individual Household Latrines (IHHL)
2. Construction of Community Sanitary Complex (CSC)
3. Solid and Liquid Waste Management (SLWM)
4. Material Recovery Facility (MRF)
5. Construction of Faecal Sludge Management (FSM) Unit.
6. Construction of GOBARDHAN Unit
7. ODF-S and ODF-Plus Centric Information, Education and Communication and Training activities.

State has taken up several programmes to maintain Open Defecation Free (ODF) status

Two days Divisional level ODF-Sustainability training cum workshop have been held with Executive Officers to discuss on various components like ODF sustainability, Solid and Liquid Waste Management, GOBAR-Dhan, Information Education and Communication activities and appointment of Swachhagrahis.

A State level TOT on “Engagement of Swachhagrahis” was held and subsequently similar trainings were held for 30 district consultants. The Swachhagrahis were trained and engaged at village level to motivate and organize communities for improved usage of IHHLs, sustaining ODF status, adopting hygiene practices and SWM, etc. As on date 30566 Swachhagrahis have been trained by the State.

IEC cell has been established at State level to effectively implement Information, Education and Communication activities.

Various Information Education and Communication programs have been organized in all Gram Panchayats of the state to educate the public on cleanliness, usage of toilet and its maintenance, solid and waste management, menstrual hygiene management.

The mission aims to construction of four model material recovery facility (MRF) units for scientifically disposal of solid waste collected in Grama Panchayats. Detailed project reports have been approved for 04 units (Ramanagara, Bellary, Dakshina Kannada and Udupi). One unit is near to completion in the Udupi District and 03 Units in other districts are in progress.

Best Practices

1. Faecal sludge management unit established in Badagabettu Gram Panchayath of Udupi district. This is the first unit run by SHG collecting faecal sludge from surrounding Gram Panchayaths charging Rs.3000 per tanker and converting that in to manure by FSTP plant. In one month, it has collected 35 tankers of 3kl each.

A Faecal Sludge Treatment Plant (FSTP) has come up at 80 Badagebettu Grama panchayat under the Swaccha Bharath Mission in Udupi district.

The faecal sludge management, when the septic cover flows, is a challenge in rural areas. Due to non-availability suction machine, many a time it is directly let in the open. To find a solution to it, the first FSTP a solution to it, the first FSTP has been developed at 80 Badagubettu at an estimate cost of Rs. 63.36 lakh. It can treat 3kl or 3,000 liters of faecal sludge daily.

The FSTP aims at scientific disposal of faecal sludge from houses, apartments and commercial buildings and the processed faecal waste can be used as manure. The manure will be given to the farmers at a concessional rate.

2. For the scientific disposal of dry waste, Udupi district set up SLWM (Solid and Liquid Waste Management) centers across all 155 GPs. Involving SHG women, district has successfully turned waste management into economic activity by converting trash into resources.

After the success of SLWM in GP level, Udupi has entered into a second phase of solid waste management called Material Recovery Facility (MRF), which is first of its kind in rural Karnataka established in July 2021. By utilizing of Rs.2.5 crore under SBM(G) for the formation of MRF.

MRF located in Nitte village handling dry waste (non biodegradable) from 42 Panchayaths in and around Karkala Taluk. It has the capacity of handling 10 ton per day. Facility is equipped with amenities like 3 conveyor belts (floor conveyor, inclined conveyor, mezzanine conveyor) baler machine, weighbridge etc. Collected dry waste has been sorted (segregated) into 25-30 categories, then baled and dispatched to authorised recycling centers. MRF has added value to waste and ensured that every collected item is scientifically disposed. It increased the efficiency of work force and reduces the labour and time involved in it.

In a year (from August 2021 to July 2022) MRF has collected 1056 tons of dry waste. Revenue collected from the sale of dry waste is Rs 84.86 Lakhs, collection from user fee is Rs 36.04 lakhs. Total income generated in a year is Rs 121.64 lakhs. Expenditure is Rs 115.22 lakhs. Net profit is Rs 6.5 lakhs.

MRF has paid tax as well. The dry waste which has been useless converted into resources has been capable of generating tax revenue to government is significant.

To achieve ODF sustainability in rural areas through the Faecal Sludge Management (FSM), the project aims to establish 54 model FSM units for scientific treatment and management of faecal sludge, for which Detailed Project Reports have been approved. Out of which 11 units are completed, 44 units are under progress.

With the objective of producing bio gas from raw waste, currently 48 Detailed Project Reports have been approved for the construction of bio gas units, of which 12 units have been completed, and the work on pending units is in progress.

As per the mission guidelines, the villages have to declare ODF Plus in three phases (Aspiring, Rising, Model). In this regard total 18717 villages have been declared as ODF Plus (Aspiring-18506, Rising-69, Model-142).

National Awards received by Government of India:

- ❑ Govt of India's Jal Shakti Ministry awarded Karnataka First prize in Sujalam 2.0 campaign.
- ❑ Govt of India's Jal Shakti Ministry awarded Karnataka First prize in Swachhata Hi Seva- 2022 campaign.
- ❑ Karnataka State in 2nd rank in the ODF declaration Villages as Aspiring at Nation.

Rural Energy Programmes

Mahatma Gandhi Institute of Rural Energy and Development (MGIRED) carries out the awareness and capacity building programmes on rural energy and sustainable rural development including renewable energy conservation, environmental protection, rain water harvesting, improved cook stoves, forestry etc. Capacity building inputs were provided to elected representatives of rural local bodies, school & college students etc.

A) Karnataka State Biofuel

Karnataka Bio-fuel Policy is implemented through Karnataka State Biofuel Development Board. Nearly 17,790 litres of bio diesel has been produced by incurring an expenditure of Rs. 361.01 lakh as against the allocation of Rs.495.48 lakhs during 2021-22. For 2022-23, an allocation of Rs. 300.00 lakh is earmarked, of which Rs.150.00 lakh has been released. About 12180 litres of bio diesel has been produced as against the target of 17000 litres by incurring an expenditure of Rs.213.93 lakhs (by utilizing opening balance amount) up to the end of Nov. 2022.

B) Institutional support for Rural Energy Development

During 2021-22, 426 Training / Skill Development programmes were held covering 7161 participants. An amount of Rs. 521.75 lakhs has been spent towards Administration, Training and Rural Heritage Park civil works expenses. For 2022-23, an allocation Rs.340.00 lakhs is provided, of which Rs.170.00 lakhs has been released. About 171 training of 5-days residential training for SHG/GPLFs on Solid Waste Management and other trainings were held covering 6737 participants by incurring an expenditure of Rs.374.99 lakhs (by utilizing the opening balance amount) on Administration, Training and Rural Heritage Park civil works up to the end of November 2022.

Rural Communications

Improvements of rural roads and their maintenance are being taken up under Pradhana Manthri Gram Sadak yojana (PMGSY), Namma Grama Namma Raste Yojane (NGNRY) and Mukhya Mantri Gramina Raste Abhivruddi Yojane (MMGRAY) as well as RIDF schemes. Under these three programmes, totally 5988.66 kms of road length has been maintained

by incurring an expenditure of Rs. 93.78 crore during the current year up to the end of November 2022.

4.4 WAGE EMPLOYMENT PROGRAMMES

Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)

Mahatma Gandhi National Rural Employment Guarantee Act is being implemented in all the districts with an objective to enhance livelihood security in rural areas by providing 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteered to do unskilled manual work as per demand, resulting in evaluation of productive assets of prescribed quality and durability, Strengthening the livelihood resource base of the poor, Pro actively ensuring social inclusion and strengthening of PRIs. Funds will be shared between the GoI & GoK in the ratio of 90:10 Labour and material ratio shall be maintained at 60:40.

For 2022-23, an amount of Rs.5246.83 crores has been released as against the outlay of Rs. 7096.70 crores (including wage component), of which Rs.5016.82 crores has been utilized to generate 945.20 lakh mandays up to Nov 2022. About 25.58 lakhs households have been provided employment as against the demand of 28.86 lakh during the current year. About 15.30 lakh works have been undertaken of which 5.27 lakh works are completed and the remaining 10.03 lakhs works are under progress.

Karnataka State Rural Livelihood Promotional Society (KSRLPS)

Karnataka State Rural Livelihoods Promotion Society named as “Sanjeevini”, as a nodal agency implementing the National Rural Livelihoods Mission (NRLM) since 2010-2011.

Institution Building and Capacity Building

Mobilization of poor to form their ‘own institutions’ is the most important prerequisite and the core investment for large scale poverty reduction. NRLM would organize all poor households (women) in to aggregate institutions of the poor, that provide them with voice, space and resources. These platforms would partner with local self-governments, public service providers, banks, private sector and other mainstream institutions to facilitate delivery of social and economic services to the poor. Building and sustaining institutions of the poor at various levels would be for collective action, greater solidarity, bargaining power, economies of scale and larger linkages.

The Gram Panchayat Level Federation will select a local Community Resource Person (CRP), to carry the social mobilization and capacity building process.

The progress achieved under NRLM through KSRLPS during 2022-23 under different components is of Rs.392.13 crore as against the allocation of Rs. 505.93 crore up to end of November 2022. About 22332 candidates have been imparted skill training against a target of 26546 and 5967 candidates have been placed upto end of November 2022.

4.5 RURAL GOVERNANCE

Decentralized Planning in Karnataka

The Karnataka Panchayat Raj Act, 1993 provides for a three-tier structure of Panchayath Raj Institutions namely Zilla Panchayath, Taluk Panchayath and Gram Panchayath to

carry out the entrusted functions. Each Gram Panchayath with population of less than 8000 is provided with an annual grant of Rs.10 lakhs, Grama Panchayaths which are more than 8000 populations is provided an increment of Rs.1 lakh for every 1000 population. Rs. 1203.42 crore has been allocated to the grama panchayats during 2022-23.

Gram Panchayaths also have powers to levy tax on buildings and lands, levy water rate, tax on entertainment, vehicles, advertisement and hoarding and collect market fee, fee on bus stands and on grazing cattle. Both the Taluk and Zilla Panchayats are allowed to charge fee on their property used by others and they do not have powers to levy taxes. In addition, both the Grama Panchayats and the Taluk Panchayats get proceeds from cess on land revenue, surcharge on stamp duty levied by the State Government. Except for these, the panchayats have to depend solely on the resources transferred from the Government.

As per the three schedules (I, II, III) the panchayats are authorised to carry out functions such as preparation of annual plans, annual budgets and sectoral schemes for promotion of agriculture, animal husbandry, rural housing, drinking water, roads and bridges, rural electrification, education, rural sanitation, public health, women and child development, social welfare, public distribution system, maintenance of community assets, co-operative activities and promotion of libraries.

Section 309 of Karnataka Panchayath Raj Act 1993 provides for the preparation of development plan by the Grama Panchayats, Taluk Panchayats and Zilla Panchayats. Further, Section 310 of the Act makes it mandatory for the state to constitute District Planning Committees (DPCs) in each district which are required to consolidate the plans prepared by the panchayaths and municipal bodies and to prepare the draft district development plan of the district by taking into consideration the needs of the spatial planning, physical and natural resources and the level of infrastructure development. Dr. D M Nanjundappa's Report on Redressal of Regional Imbalances also recommended that DPCs in each district should do the planning keeping 'taluk' as the primary unit in the planning process.

In the preparation of plans the ward sabhas and grama sabhas play a crucial role and their recommendations and suggestions do figure in such action plans emphasising the fact that the plans so prepared are the byproduct of people's wishes and demands. Thus, the entire planning process can be termed as "Participatory Planning Processes".

Section 309(4) and 309-A to 309-H of Karnataka Panchayath Raj Act 1993, it is clearly mentioned the strategy to follow in preparing the development plan from the grass root level Janavasti Sabha. These planning proposals have to be scrutinized at the gram panchayat level and also at Gram Panchat/Taluk Panchayat/Zilla Panchayat development committees. Vision plan has to be prepared at the Gram Panchayat level on the basis of the necessity and available grants.

Namma Grama Namma Yojane : Grama Panchayat Development Plan: GPDP

The recommendations of the Finance Commission provided an opportunity for strengthening the preparation of decentralized plan. As per amendment to the Karnataka Panchayat Raj Act, 1993, Grama Sabhas are empowered for the preparation, monitoring and evaluation of decentralized plans. Based on the recommendations, the

state initiated the process of preparation of Grama Panchayat Development Plan and is being implemented as Namma Grama Namma Yojane in the state.

The Process envisaged that, the resource envelope at Grama Panchayat was well defined by incorporating funds received by the Grama Panchayat under the GP resource envelope.

Panchayats have been mandated for the preparation of Panchayat Development Plan (PDP) for economic development and social justice utilizing the resources available to them. The PDP planning process has to be comprehensive and based on participatory process, which involves the full convergence with schemes of all related to 29 subjects enlisted in the Eleventh Schedule of the Constitution and have been transferred to the PRI Institutions along with funds, functions and functionaries.

The Department has taken up to prepare 5 years of Grama Panchayat Perspective Plan throughout the State. Department has considered Poverty, Livelihood and Skill Development, Health, Education, Women and child Development, socially secured village, Environment and natural resource management. Infrastructure self-sufficient village and Good Governance as main theme for preparation of GPPL. Formats have been designed and finalized by the department and training has been imparted to all the concerned stake holders to collect the GP wise, village wise grass root level information. Collection of village wise information is under progress. The information will be uploaded in Panchatantra 2.0 software. This will be the base level information for any planner to make policies.

Activity Mapping

The State has evolved a detailed range of 'Activity Mapping' for all the three panchayaths. Broadly, the activity mapping visualizes both Zilla Panchayaths and Taluk Panchayaths as planners, facilitators and owners of common executive machinery, Grama Panchayaths as the cutting edge of local service provision and Grama Sabha and Ward Sabhas as instruments of downward accountability. The new activity mapping framework devolving functions has to be accompanied by adequate devolution of finances and functionaries. To translate this into reality, the department of Rural Development and Panchayath Raj in coordination with other departments has devolved certain functions, functionaries and finances to PRIs.

The functions of the Karnataka State Decentralized Planning and Development Committee

In accordance with Karnataka Gram Swaraj and Panchayath Raj Act, 1993, Section 310(B) Karnataka State Decentralised Planning and Development Committee has been constituted under the Chairmanship of Hon'ble Chief Minister, Government of Karnataka. The main objective of the committee is to enable the Government to formulate development plans and the annual economic review to be presented along with budget document.

The Karnataka State Decentralized Planning and Development Committee (KSDPDC), it shall link the plans of districts and other planning units to provide for mutual consultation and negotiations between them and provide the framework for integrating the sectoral and spatial aspects of urban and rural plans. The committee shall also look after formulation

of policy matters related to local development and regional development, co-ordination of districts and state plans and designing policies to strengthen local bodies.

Some of the activities carried out by the Committee during the current year are:

- i) To formulate the plans from bottom to top approach a detailed guideline/ circular has been issued.
- ii) In order to facilitate preparation of Perspective Plan for 5 years by all the Grama Panchayaths, training has been imparted to all the elected representatives, Chief Planning Officers of ZP and other departmental officers.
- iii) Action has been initiated for the preparation of 5-year Perspective Plan of Urban Local Bodies as per 74th Constitutional Amendment.
- iv) The preparation of Perspective Plan by each Grama Panchayats is under progress.

Allocation for District Sector

During 2022-23, an amount of Rs. 42972.09 crores was allocated to district sector plans which constitute 16.17 percent of the total state budget. Major sectors like, Education (51.07%), Other Rural Development Programmes (16.20%), Medical and Public Health including Family Welfare (5.95%), welfare of Scheduled Castes, Scheduled Tribes & OBC (7.34%), Nutrition (4.55%), Rural Employment (2.98%), Social Security and Welfare (4.19%) has been given the priority during 2022-23.

WAY FORWARD

- ❑ Action to increase the Gram Panchayath resources: (i) To increase the resources of Grama Panchayaths, the tax levying coverage area and criteria has been revised, (ii) Building and land tax has been levied based on their market value in Grama Panchayath limit and (iii) Provision has been made for Grama Panchayaths to levy taxes on mobile tower, wind power-based electricity generating plants and solar energy based electricity generating plants in Grama Panchayath area.
- ❑ Timely collection of taxes is crucial to increase the resources of Gram Panchayaths.
- ❑ KRIDL needs to better utilize its significant cash reserves and fixed assets. Surplus cash can be invested in higher return earning instruments like reliable mutual funds, long term pension funds.
- ❑ Recharge defunct bore wells, Automation of water supply and incremental block tariff for bulk water is crucial for sustaining MVWSS.
- ❑ Faecal Sludge Management by SHG in Badagabettu Gram Panchayath of Udupi district should be replicated across GPs in the State.
- ❑ Participatory Planning Process should be enforced compulsory as per Karnataka Raj Panchayat Act, 1993.
- ❑ Panchayats should be enforced for the preparation of Panchayat Development Plan (PDP) for economic development and social justice utilizing the available resources.
- ❑ To strengthen the Rural Local Bodies economically sound, the Finance Commission recommendations for devolution of funds should be enforced in true spirit.

- ❑ Government should go for appraisal of various rural development schemes and programmes to uplift rural areas.
- ❑ Promotion of rural entrepreneurship is extremely important in the context of producing gainful employment for reducing the rural and urban gap.
- ❑ Monitoring and evaluation of rural development programmes by providing right information at the right time, providing timely and adequate credit and continuous motivation of bankers, Panchayat union leaders and voluntary service organizations will lead to the development of rural entrepreneurship and in turn rural development.
- ❑ Efforts should be made periodically through surveys to update the number of houseless households as per SECC data and address the governance issues.
- ❑ To address the growing demand of water can happen by convergence of schemes of different departments.
- ❑ With respect to wage employment, it needs to develop appropriate mechanisms to monitor the progress in the achievement of the assigned targets on the provision of 100 days of wage employment to the poor households.
- ❑ GPs should mobilize resources using measures like waste to resource (segregation at source), asset monetization, green and clean initiatives (CDM) and improving the recovery of revenue sources (incentives / disincentives)
- ❑ Convergence of MGNREGA with schemes of agriculture, horticulture, forestry, and watershed departments for more employment generation to close the demand supply gap. Further The best practices on the convergence between MGNREGS and the provision of social infrastructure such as libraries, sports complexes, anganawadi/ school buildings and hospitals should be promoted in all the districts.
- ❑ 7.8 lakh hectares of fallow land, should be used for productive purposes like growing biofuel crops, encouraging income generating activities to boost the rural economy.
- ❑ The powers, functions and provisions given to panchayats should be optimally utilized for planning, programme implementation, budgeting, preparation, monitoring and evaluation of decentralized plans and resource mobilization.
- ❑ Investment on Digital Infrastructure is crucial for good governance and for promoting efficient utilization of programmes/schemes.
- ❑ GPs should provide IEC (Information, Education and Communication) on productivity improvements, government schemes and policies, best practices, disaster (droughts and floods) adaptation and mitigation strategies like desilting and deepening of tanks/rivers, plantation activities, flood and drought tolerant varieties, changes in cropping pattern.

APPENDIX 4.1

Details of districtwise Houseless Households as per Socio Economic Caste Census - 2011 (SECC - Rural)

District	Total Households	Houseless							TOTAL
		Grass/Thatch/Bamboo	Plastic/Polythene	Mud/Unburnt bricks	Wood	Stone not packed with mortar	Rented	Houseless families	
Bagalkot	240555	14073	1169	6804	8995	70342	16552	157	118092
Bangalore	269172	1157	761	21906	662	2343	131825	299	158953
Bangalore Rural	158426	694	399	30525	834	3665	19145	108	55370
Belgaum	735630	50395	6052	183795	17785	134607	45088	589	438311
Bellary	290257	12690	1111	39163	5878	46686	23378	113	129019
Bidar	240566	6986	4109	29087	6302	69929	5661	32	122106
Bijapur	292629	16812	1570	6865	4596	90761	17802	130	138536
Chamarajanagar	203466	5089	782	71801	5164	6815	6431	24	96106
Chikkaballapura	218901	4106	471	25362	758	8306	10270	272	49545
Chikkamagalur	206997	1404	734	72968	2214	9838	11373	229	98760
Chitradurga	282921	16074	753	50912	2861	35019	12856	194	118669
Dakshina Kannada	276202	864	640	111652	1723	34867	13689	130	163565
Davanagere	278261	6496	1210	77185	2873	27397	15082	147	130390
Dharwad	160538	3445	310	73979	3867	17297	7713	76	106687
Gadag	134976	10129	776	40580	1821	27310	9563	47	90226
Kalaburagi	314651	15479	2797	22758	4845	105350	14990	79	166298
Hassan	348175	1558	907	170573	2519	20784	15877	156	212374
Haveri	257562	12914	1717	108016	2404	41592	14458	115	181216
Kodagu	114715	1001	664	49189	618	2956	11690	180	66298
Kolar	226042	2272	733	41107	2363	9557	9574	164	65770
Koppal	222255	10460	1991	43626	4572	46549	17394	72	124664
Mandya	351462	3191	808	104609	1961	30530	15165	288	156552
Mysore	416354	4014	2334	186903	3369	5441	19598	72	221731
Raichur	267156	52385	6316	51539	4623	39501	12080	151	166595
Ramanagara	195562	2675	2095	49476	1219	4998	13440	59	73962
Shimoga	257688	8929	1221	107671	3660	8087	13241	121	142930
Tumkur	488277	15032	1541	88452	4419	35681	24581	376	170082
Udupi	200232	738	453	52429	798	16673	8501	161	79753
Uttara Kannada	240456	6042	370	81820	2553	27108	11015	54	128962
Yadgir	158580	13702	2324	15334	2194	48551	7817	128	90050
Rural Grand Total	8048664	300806	47118	2016086	108450	1028540	555849	4723	4061572

APPENDIX 4.2

Details of districtwise completed houses under Basava Housing Scheme - Rural

Sl. No	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed*
1	Bagalkot	1848	2366	1976	2469	2770	2532	6594	7367	4777	1800
2	Ballari	2174	1979	2095	3585	3429	2358	7698	7922	2201	873
3	Belagavi	3540	6189	4354	5320	5238	5282	13132	16791	9958	2483
4	Bengaluru Rural	753	813	662	574	669	315	2084	1702	1797	904
5	Bengaluru Urban	693	491	683	300	532	161	1908	952	1730	282
6	Bidar	1558	1938	1505	1365	3277	1984	6340	5287	5630	1541
7	Chamarajanagar	1372	1721	1437	1721	2048	1220	4857	4662	3531	1434
8	Chikkaballapur	1575	1213	1215	1351	1778	1033	4568	3597	3519	1624
9	Chikkamagaluru	1095	1036	894	1029	1508	1256	3497	3321	3317	921
10	Chitradurga	1872	1904	1907	1688	2292	1498	6071	5090	4254	1470
11	Dakshina Kannada	1231	1529	1025	1419	1378	1163	3634	4111	3477	1227
12	Davanagere	2345	2196	1481	1711	1907	1754	5733	5661	3431	1481
13	Dharwad	1014	2213	1186	1994	1869	2022	4069	6229	2925	1356
14	Gadag	1093	1318	1416	1312	1514	1090	4023	3720	2655	997
15	Hassan	2220	2983	2296	3232	3006	2609	7522	8824	5354	2735
16	Haveri	2066	3200	2234	2590	3217	2909	7517	8699	4992	1771
17	Kalaburagi	2185	2258	2205	2026	3674	2825	8064	7109	6259	1829
18	Kodagu	457	503	347	272	607	360	1411	1135	1691	310
19	Kolar	1782	2183	1524	1793	2276	1506	5582	5482	4306	1662
20	Koppal	1580	2299	1594	2665	2546	2407	5720	7371	3934	2609
21	Mandya	1803	2865	2173	2762	2183	1723	6159	7350	4820	1824
22	Mysuru	2872	3195	2926	2845	4245	3184	10043	9224	7010	3699
23	Raichur	1840	1517	1728	1508	2026	1270	5594	4295	3727	1581
24	Ramanagara	1347	1574	1503	1990	1405	1273	4255	4837	2898	1306
25	Shivamogga	1778	1811	1501	2478	2615	2239	5894	6528	4802	2348
26	Tumakuru	2673	5285	2695	4263	3421	2861	8789	12409	6805	3513
27	Udupi	862	797	795	1251	1056	979	2713	3027	2745	929
28	UttaraKannada	1311	2341	1388	2117	2447	2258	5146	6716	4517	1589
29	Vijayanagara	0	0	0	0	0	3470	0	3470	3580	78
30	Vijayapura	2154	3225	2443	3114	4028	295	8625	6634	7088	3067
31	Yadgiri	907	1255	812	907	1039	888	2758	3050	2270	781
	Total	50000	64197	50000	61651	70000	56724	170000	182572	130000	50024

* End of November 2022

APPENDIX 4.3

Details of districtwise completed houses under Dr.B.R.Ambedkar Nivas Scheme- Rural

Sl. No	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed*
1	Bagalkot	993	658	1178	722	865	871	3036	2251	987	672
2	Ballari	947	806	2374	1481	1652	1271	4973	3558	626	390
3	Belagavi	2368	1492	2451	1700	1984	1993	6803	5185	2294	1226
4	Bengaluru Rural	416	356	590	301	288	175	1294	832	432	317
5	Bengaluru Urban	329	232	653	149	223	86	1205	467	413	120
6	Bidar	2794	1927	1842	1551	2965	2778	7601	6256	2645	1730
7	Chamarajanagar	704	535	1411	657	656	504	2771	1696	788	535
8	Chikkaballapur	2076	764	1896	1194	1399	1057	5371	3015	1472	1041
9	Chikkamagaluru	366	262	731	253	375	386	1472	901	582	292
10	Chitradurga	2031	1315	2371	1482	1495	1370	5897	4167	1500	1013
11	Dakshina Kannada	188	122	437	165	203	190	828	477	501	208
12	Davanagere	2047	1220	1639	974	1019	1133	4705	3327	980	861
13	Dharwad	330	332	410	291	362	402	1102	1025	458	299
14	Gadag	1435	871	1142	1044	1073	992	3650	2907	1024	908
15	Hassan	1095	696	1572	912	989	922	3656	2530	1180	855
16	Haveri	1117	900	1473	892	1056	1024	3646	2816	1123	664
17	Kalaburagi	3589	2818	2375	2880	3143	4335	9107	10033	2519	2063
18	Kodagu	149	69	207	46	170	53	526	168	321	74
19	Kolar	1028	555	1313	658	929	577	3270	1790	1126	679
20	Koppal	1271	1177	1206	1170	1098	1314	3575	3661	1025	1195
21	Mandya	578	358	909	395	364	337	1851	1090	680	352
22	Mysuru	1417	903	2373	954	1355	1150	5145	3007	1552	1419
23	Raichur	1983	1654	2629	1733	1717	1438	6329	4825	1648	1333
24	Ramanagara	298	232	727	314	242	213	1267	759	427	273
25	Shivamogga	426	278	965	410	484	428	1875	1116	755	476
26	Tumakuru	1677	1349	2048	1596	1217	1081	4942	4026	1528	1040
27	Udupi	85	48	275	99	91	95	451	242	333	128
28	UttaraKannada	250	215	329	209	226	247	805	671	481	137
29	Vijayanagara	0	0	0	0	0	120	0	120	1158	19
30	Vijayapura	2320	1900	1606	1958	1734	2318	5660	6176	1789	1560
31	Yadgiri	693	950	868	824	626	810	2187	2584	653	555
	Total	35000	24994	40000	27014	30000	29670	105000	81678	33000	22434

* End of November 2022

APPENDIX 4.4

Details of districtwise completed houses under Indira Awas Yojana / Pradhan Mantri Awas Yojana (Gramin)

Sl. No.	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	com-pleted	Target	com-pleted	Target	Com-pleted	Target	com-pleted	Target	com-pleted*
1	Bagalkot	1336	273	1423	300	436	387	3195	960	1022	284
2	Ballari	2276	736	2047	650	780	511	5103	1897	1044	258
3	Belagavi	3245	1291	3648	1305	2747	2129	9640	4725	3715	1246
4	Bengaluru Rural	383	82	554	66	42	58	979	206	215	76
5	Bengaluru Urban	239	27	583	24	9	16	831	67	107	24
6	Bidar	948	336	1562	216	198	152	2708	704	1771	203
7	Chamarajanagar	2160	1026	1260	687	1109	391	4529	2104	2150	722
8	Chikkaballapur	1567	424	1381	364	436	278	3384	1066	1054	477
9	Chikkamagaluru	446	56	717	54	93	110	1256	220	333	79
10	Chitradurga	2970	1085	1921	716	1464	593	6355	2394	2801	649
11	Dakshina Kannada	216	28	515	48	13	23	744	99	244	88
12	Davanagere	1362	327	1403	209	236	241	3001	777	959	254
13	Dharwad	664	262	779	267	832	619	2275	1148	1104	571
14	Gadag	1100	418	1170	476	1164	631	3434	1525	1302	708
15	Hassan	835	152	1663	252	541	404	3039	808	833	324
16	Haveri	1733	632	1760	509	1097	748	4590	1889	1767	565
17	Kalaburagi	1451	450	2021	209	883	446	4355	1105	2441	487
18	Kodagu	171	31	270	8	1	35	442	74	117	8
19	Kolar	1317	386	1253	300	293	235	2863	921	962	312
20	Koppal	1571	480	1305	460	1016	832	3892	1772	1343	1175
21	Mandya	525	90	1308	252	830	419	2663	761	1109	387
22	Mysuru	2642	1051	2350	708	1169	863	6161	2622	2320	1154
23	Raichur	5666	2161	2093	1428	1985	1093	9744	4682	4103	1460
24	Ramanagara	550	137	963	204	163	202	1676	543	453	114
25	Shivamogga	793	147	1161	189	186	168	2140	504	460	271
26	Tumakuru	1810	835	2110	604	720	497	4640	1936	1373	568
27	Udupi	148	15	369	35	3	32	520	82	73	24
28	UttaraKannada	341	99	806	75	174	125	1321	299	285	114
29	Vijayanagara	0	0	0	0	0	81	0	81	1190	66
30	Vijayapura	1478	301	1822	280	445	401	3745	982	1447	446
31	Yadgiri	2057	1344	783	641	935	669	3775	2654	1903	583
	Total	42000	14682	41000	11536	20000	13389	103000	39607	40000	13697

* End of November 2022

APPENDIX 4.5

Details of districtwise completed houses under Devaraj Urs Housing Scheme - Rural

Sl. No	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed*
1	Bagalkot	135	107	98	106	151	154	384	367	143	96
2	Ballari	179	70	125	126	279	106	583	302	68	46
3	Belagavi	768	512	225	556	952	713	1945	1781	788	554
4	Bengaluru Rural	283	136	33	109	264	91	580	336	144	113
5	Bengaluru Urban	6	6	19	3	8	8	33	17	4	5
6	Bidar	211	101	76	140	309	332	596	573	582	435
7	Chamarajanagar	81	21	73	45	159	67	313	133	89	81
8	Chikkaballapur	86	58	61	89	203	116	350	263	139	165
9	Chikkamagaluru	15	11	45	16	55	26	115	53	25	30
10	Chitradurga	221	205	97	173	834	304	1152	682	1649	1301
11	Dakshina Kannada	1	2	13	2	1	3	15	7	5	1
12	Davanagere	101	74	75	55	177	98	353	227	401	295
13	Dharwad	28	56	61	57	52	69	141	182	31	51
14	Gadag	37	36	72	46	58	49	167	131	55	44
15	Hassan	74	49	116	69	149	65	339	183	165	183
16	Haveri	178	204	113	182	286	258	577	644	180	151
17	Kalaburagi	221	192	130	148	312	290	663	630	339	350
18	Kodagu	3	2	16	4	7	7	26	13	4	4
19	Kolar	7	15	77	19	55	42	139	76	44	52
20	Koppal	58	102	80	136	138	150	276	388	113	207
21	Mandya	50	86	108	92	93	71	251	249	49	55
22	Mysuru	82	58	146	61	399	134	627	253	448	386
23	Raichur	138	106	87	139	209	168	434	413	228	150
24	Ramanagara	62	48	75	74	119	82	256	204	59	52
25	Shivamogga	4	3	48	4	12	11	64	18	42	33
26	Tumakuru	238	183	136	168	2202	761	2576	1112	2074	1926
27	Udupi	48	38	64	46	82	42	194	126	28	53
28	Uttara Kannada	40	65	70	64	73	82	183	211	36	38
29	Vijayanagara	0	0	0	0	0	16	0	16	149	6
30	Vijayapura	110	175	122	128	297	371	529	674	301	437
31	Yadgiri	35	61	39	39	65	114	139	214	138	219
	Total	3500	2782	2500	2896	8000	4800	14000	10478	8520	7519

* End of November 2022

APPENDIX 4.6

Details of districtwise Rural House sites distributed

Sl. No.	District	2019-20		2020-21		2020-21		Total		2022-23	
		Target	Sites Distributed	Target	Sites Distributed	Target	Sites Distributed	Target	Sites Distributed	Target	Sites Distributed*
1	Bagalkot	156	0	156	108	217	8	529	116	217	38
2	Ballari	73	0	73	0	131	0	277	0	131	0
3	Belagavi	525	0	525	0	359	107	1409	107	359	0
4	Bengaluru Rural	81	180	81	24	92	24	254	228	92	1
5	Bengaluru Urban	104	0	104	14	115	22	323	36	115	96
6	Bidar	136	0	136	0	197	0	469	0	197	0
7	Chamarajanagar	100	0	100	0	125	0	325	0	125	174
8	Chikkaballapura	114	436	114	86	150	30	378	552	150	2
9	Chikkamagaluru	212	134	212	53	200	0	624	187	200	0
10	Chitradurga	140	0	140	0	147	0	427	0	147	0
11	Dakshina Kannada	226	176	226	80	162	151	614	407	162	81
12	Davanagere	181	97	181	93	132	90	494	280	132	30
13	Dharwad	113	67	113	1	152	90	378	158	152	7
14	Gadag	91	199	91	313	154	179	336	691	154	125
15	Hassan	211	0	211	0	177	45	599	45	177	47
16	Haveri	165	0	165	144	174	0	504	144	174	0
17	Kalaburagi	210	0	210	0	238	0	658	0	238	29
18	Kodagu	79	0	79	29	63	0	221	29	63	0
19	Kolar	117	358	117	38	126	35	360	431	126	4
20	Koppal	127	0	127	274	142	81	396	355	142	28
21	Mandya	184	30	184	362	158	272	526	664	158	12
22	Mysuru	208	74	208	23	170	127	586	224	170	20
23	Raichur	135	26	135	112	147	0	417	138	147	0
24	Ramanagara	105	155	105	0	78	128	288	283	78	159
25	Shivamogga	212	124	212	136	133	87	557	347	133	1
26	Tumakuru	247	311	247	253	190	263	684	827	190	189
27	Udupi	159	40	159	7	133	90	451	137	133	56
28	UttaraKannada	169	0	169	0	228	0	566	0	228	0
29	Vijayanagar	109	0	109	0	148	0	366	0	148	0
30	Vijayapura	204	130	204	0	238	0	646	130	238	0
31	Yadgiri	107	0	107	67	124	0	338	67	124	0
	Grand Total	5000	2537	5000	2217	5000	1829	15000	6583	5000	1099

* End of November 2022

INTRODUCTION

5.1 URBANIZATION: *is sine quo non* of economic development. Urbanization is an index of transformation from traditional rural economies to modern industrial one. It is a long-term integral process of economic growth.

Karnataka is the seventh largest state in India with 39.27 % of urban population as per 2011 census. Karnataka exhibits a fluctuating trend of urbanization with a high regional variation and a high urban primacy. Disparities exist in urban growth with Bangalore being the most urbanized district (90.94 %) and Kodagu the least (14.61 %). Udupi and Dakshina Kannada districts are urbanizing faster while Uttara Kannada, Raichur and Gadag have registered very slow growth. 70 percent of urban population lives in 10 % of towns /urban agglomeration, with Bangalore being the primate city. There is a positive association between city-size and growth rate during 2001-2011. Thus, urbanization in Karnataka reflects lopsided economic development across the state and needs special attention. Districtwise details Decennial trends in Urbanization is shown in **Appendix 5.1**.

Under Urban Development sector the State aims at creating and fostering democratically vibrant urban local bodies and providing policy framework for achieving sustainable, efficient and equitable urban areas of the state through inclusive urban growth by working collaboratively with Urban Local Bodies (ULB's), and other stakeholders. It also ensures smart, efficient affordable and sustainable towns and cities that meet developmental needs of all.

5.2 URBAN INDIA INDEX

NITI Aayog's SDG Urban Index was compiled from analyzing data of 56 Urban Local Bodies (ULB's), 77 indicators. Shimla tops the index, followed by Coimbatore and Chandigarh. The index ranks Bengaluru 13th with a composite score of 69.

Bengaluru topped in 2 Goals – SDG 8 – Decent Work and Economic Growth – 79 Score and SDG 12 – Responsible Consumption and Production – 100 score.

Bengaluru topped in the following indicators with values of 100 in first 4 and 0 in the last:

1. Percentage of exclusive women Self Help Groups (SHGs) out of total bank linked SHGs.
2. Percentage of Municipal Solid Waste (MSW) treated against MSW generated.
3. Percentage of biomedical waste treated to total quantity of biomedical waste generated.
4. Percentage of wards using waste segregation techniques
5. Number of accidental deaths due to forces of nature per 1,00,000 population

Municipal Performance Index

Municipal Performance Index aims to empower cities to use evidence-based planning and ensure a better quality of life for its citizens, the index measured the development indicators in 111 municipalities across a set of five verticals, namely Governance, Services, Finance, Technology and Planning. This index solely focuses on the enabling factors

that would involve an assessment of the municipalities as they are lowest tiers of administration working at the grassroots. As such, their functioning directly determines the governance of cities.

Municipal Performance Index assess the impact of interventions from schemes such as the Swachh Bharat Mission-Urban (SBM-U), Smart Cities Mission, Atal Mission for Rejuvenation and Urban Transformation (AMRUT), Pradhan Mantri Awas Yojana-Urban (PMAY-U), Deen Dayal Antyodaya Yojana National Urban Livelihood Mission (DAYNULM) and Heritage City Development and Augmentation Yojana (HRIDAY).

Municipal Performance Index 2020 - among 51 municipalities Indore stands first in the country in Million + population with a score of 66.08 and Bengaluru stands in 31st position with a score of 45.02. In the category less than Million municipalities, New Delhi MC stood first with a score of 59.92 out of 60 municipalities, while in Karnataka Tumkuru stood at 23 (43.95), Belagavi at 33 (40.39), Shivamogga at 34 (40.39), Sagar at 40 (38.25), Mangalore 42 (38.16) and Davanagere stood at 46th place with a score of 36.83.

SDG11 – Sustainable cities and Communities

Karnataka ranks 7th among States in SDG 11 on Sustainable cities and Communities with a score of 78. Karnataka is in aspirant category with respect to Installed sewage treatment capacity as a Percentage of sewage generated in urban areas with a score of 32 and value of 31.92.

Performance of Karnataka VS India for SDG11 – Sustainable cities and Communities

Indicators / States	Punjab	Goa	Maharashtra	Karnataka	India	Target
Deaths due to road accidents in urban areas (per 1,00,000 population)	14.65	5.87	7.8	12.17	12.2	7.05
Installed sewage treatment capacity as a Percentage of sewage generated in urban areas	88.79	80.48	69.89	31.92	38.86	100
Percentage of individual household toilets constructed against target (SBM(U))	102	94.79	112	112	105	100
Percentage of MSW processed to the total MSW generated (SBM(U))	76	70	82.5	64.1	68.1	100
Percentage of urban households living in katcha houses	0.1	0	0.2	0.5	0.8	0

Indicators / States	Punjab	Goa	Maharashtra	Karnataka	India	Target
Percentage of urban households with drainage facility	97	95.6	94.8	93.7	87.6	100
Percentage of wards with 100Percentage door to door waste collection (SBM(U))	99.52	100	90	100	96.77	100
Percentage of wards with 100Percentage source segregation (SBM(U))	93.4	79.72	86.67	65.33	78.03	100
Score (Rank)	91(1)	89(2)	87(3)	78(7)	79	100

Source: NITI Aayog (2020-21)

The State Government has various interventions targeted towards improving the various Urban sectors as outlined below:

Urban Housing

Growth of Urban areas have led to growing demand for housing. Keeping this in view, housing is emerging as a prime component over the period not only in providing shelter but also in providing employment opportunities and in development of locations. To meet the growing demand of housing, the State has been pro-active in the implementation of its housing policies. Further, housing for the poor and downtrodden assumes greater importance both in rural and urban areas of the State. Allocation for the housing sector is being increased over the years along with formulation of facilitating policies and guidelines.

Karnataka Housing Board (KHB) caters to housing needs of low income, middle income and high-income groups. The Karnataka Slum Development Board (KSDB) is responsible for improvement of slums and resettlement of slum dwellers.

Karnataka Government is implementing many schemes like "Vajpayee Urban Housing Scheme", Dr.B.R. Ambedkar Nivasa Yojane, Pradhan Mantri Awas Yojana- Housing For All (PMAY -U), Devraj Urs Housing Scheme etc., to caters to need of urban poor and distribution of sites to site less persons through Vajpayee Urban Site Scheme in urban areas for EWS site-less families in the state. These schemes are implemented through Rajiv Gandhi Housing Corporation Limited.

During 2022-23, 2387 houses have been constructed up to November 2022 under Vajpayee Housing Scheme. 251 houses have been constructed up to the end of the said period under Devaraj urs Housing scheme and 1,714 houses under Dr.B.R. Ambedkar Nivasa Yojane. Districtwise houses constructed under above schemes are given in **Appendix 5.2, 5.3, 5.4, and 5.5.**

One Lakh Multi Storey Bengaluru Housing Programme: As per 2011 census, the density of population in Bangalore urban (Number of persons living in per sq. kms) is 4381, which

exerts a heavy demand for housing. In order to cater to the need of urban poor, the “1 Lakh Multi Storey Bengaluru Housing Programme” has been formulated based on a Self-Sustaining model for construction of “1 Lakh multi-Storey Houses” in and around Bengaluru for the EWS and other eligible poor on the Government land provided by Revenue Department by mobilizing the funds under State Schemes viz., Dr. Ambedkar Nivas Yojana and Vajpayee Urban Housing etc., in convergence with the “Pradhan Manthri Awas Yojana (Urban) -Housing for all (HFA)” scheme of the Government of India along with beneficiary contribution and cross-subsidy by leveraging suitable Government lands wherever possible under PPP model. Construction of 59,476 (G+3 to S+14) Multi Storied buildings including infrastructure have been taken up in 5 Taluks of Bangalore Urban District in the first and second phase.

The Karnataka Slum Clearance Board was constituted in July 1975 as per Karnataka Slum Areas (Improvement and Clearance) Act, 1973 for the welfare and development of slums. This was re-designated as Karnataka Slum Development Board during 2010. The main objective of the Board is to provide Basic amenities to the slum dwellers and to provide shelter to the needy beneficiaries in the slums.

Total Urban Population (2011 Census) in lakhs	217.97
Total Slum Identified	2989
Total Number of Notified slums(as per Act)	2826
Total Number of Non-Notified Slums	166

As per the survey conducted by Board there are 2989 slum areas in state as at the end January 2023. Out of which 410 slum areas are in Bangalore City. Totally 2826 slums are notified in the State under the Karnataka Slum Areas (Improvement and Clearance) Act 1973 and 166 slums are Non-Notified.

Prime Minister Awas Yojan Phase –“Housing for All”

It is a centrally sponsored programme implemented in Slum Areas in the State at the cost of Rs.10975 crores to constructing 1,80,253 houses along with Infrastructure facilities approved by Central and State government. Central govt. share of Rs.1049.58 crores, State Govt. Rs.1119.25 crores and Rs.1059.83 crores have been collected from Beneficiaries in different sources in its shares at the end of November-2022.

Urban Infrastructure

Urban infrastructure consists of drinking water, sanitation, sewage systems, electricity and gas distribution, urban transport, primary health services, and environmental regulation in order to keep up with the demands of economic development and population growth. This infrastructure is necessary to continue to progress societies and improve living standards.

Water Supply and Sanitation

Karnataka is one of India’s most water-stressed states. With approximately 38% of the state’s population living in urban areas, against 28% for the country as a whole. However, without effective management of available resources, water will become the main constraint on economic development.

The Karnataka Urban Water Supply and Drainage Board (KUWS&DB) is responsible for providing Water Supply and Sewerage in 314 urban areas of Karnataka except Bruhath Bangalore Mahanagara Palike. The 238 urban areas is having safe drinking water from surface source, and 76 Urban Local Bodies are being supplied drinking water from Sub-Surface source. The Board is implementing water supply schemes from assured surface source of water in 1) Malur, 2) Bangarpet, 3) Gajendragad, 4) Naregal, 5) Anekal, 6) Bidadi 7) Nymathi, 8) Kaup.

During the year 2022-23, there are 32 on-going Drinking Water Supply Schemes with a budget allocation of Rs.674.05 Crores. During the current year Board aims to commission 16 water supply schemes. Among these, Water Supply scheme to Alnavara & Annigere towns are commissioned and remaining 14 water supply schemes are in progress.

The Karnataka Integrated Urban Water Management Investment Program : (KIUWMIP) aims to improve water resource management in urban areas in a holistic and sustainable manner. Investment support will be provided to modernize and expand urban water supply and sanitation (UWSS) while strengthening relevant institutions to enhance efficiency, productivity, and sustainability in water use.

KIUWMIP is implementing ADB assisted programme to provide Under Ground Drainage (UDG) facility and continuous water supply to selected towns/cities and reforms in Urban Local Bodies. The cost of the project is Rs.2187.72 crore which includes Rs.975.00 crores ADB share. This project covers 377 square Km area and benefits 1.3 million population. The scheme period is 10 years and it is expected to complete by March 2024. During the current year Rs.250.00 crore was allocated, of which Rs.129.55 crores were spent upto end of the November 2022.

4 UGD works and 8 Water Supply works were taken up in Davanagere, Harihara, Ranebennur and Byadgi towns under Tranche-1 and 6 UGD and 7 Water Supply works in Mangaluru, Puttur, Udipi and Kundapur towns were taken up under Tranche-2 by KIUWMIP. The total project cost under Tranche-1 and Tranche-2 are Rs.1187.58 Crores and Rs.1000.14 Crores and expenditure are Rs.986.96 crore and Rs.619.73 crore respectively upto the end of November 2022.

Bangalore Water Supply and Sewerage Board

Bangalore Water Supply and Sewerage Board is an autonomous body formed by the State legislature under Bangalore Water supply and Sewerage Board Act on 10-09-1964 for Water Supply & Sewage disposal. It is one of the first Water supply & Sanitation Utilities in India with jurisdiction of entire Bruhat Bengaluru Mahanagara Palike Area of 800 Sqkm.

It has the following mandates: Adequate water supply to meet demand; creation of sewerage network & safe disposal of sewage; Preparation, implementation of plans & schemes for augmenting water supply & safe disposal of sewage; Levy and collection of water charges on 'no loss no profit basis' for sustainability of the system.

Since its inception in the year 1964, BWSSB has executed several water supply and sewage schemes for the city, including the prestigious Cauvery Water Supply Scheme (CWSS) Stages - I, II, III & Stage IV Phase - I, Phase - II and sewerage system improvement projects concentrating on sewage collection, conveyance and treatment works. The

existing sewerage system covers an area of 265 km² of core area of the city, in which three major Sewage Treatment Plants (STP) are constructed at Vrishabhavathi, Koramangala & Challagatta and Hebbal Valleys (major and minor). The sewerage system for newly added areas mainly the erstwhile CMC's is nearing completion.

Initiatives taken in 2022-23

To Providing Underground Drainage Facilities (Laterals) to 110 village areas of Bruhath Bengaluru Mahanagara Palike tender has been invited and work awarded on March-2018 for total amounting to Rs.925.06 Crore. The duration of the project is 36 months. 98% of the project is completed. The cumulative physical progress achieved is 1512 Kms as against 1549 Kms and cumulative financial progress achieved is Rs.787.61 Crores.

Sanitation

Proper sanitation promotes health, improves the quality of the environment and thus, the quality of life in a community. Sanitation refers to the safe collection, transportation, treatment and disposal of human wastes.

Sanitation is one of the most important aspects of community well-being because it protects human health, extends life spans, and is documented to provide benefits to the economy.

Swachh Bharat Mission

Swachh Bharath Mission (SBM) was launched on 2nd October 2014. The Mission has the following components viz., Household toilets, Community toilets, Public toilets, Solid Waste Management (SWM), IEC & Public Awareness and Capacity building and Administrative & Office Expenses (A&OE).

The main Objective of Swachh Bharat Mission is to eliminate open defecation and to ensure scientific Management of Municipal Solid Waste. Under the said programme, State has envisaged construction of 3.21 lakhs of Individual Household Latrines (IHHLs), 11033 Community Toilet Seats, 5407 Public Toilet Seats. Till date 3.20 lakhs Individual Household Latrines (IHHLs) have been constructed and 40 ULB's have been certified as ODF(+) by Third party inspection Agency.

Administrative approvals have been accorded to 219 DPRs to establish scientific SWM processing and disposal facilities with a total estimated cost of Rs. 1501.31 crores. Action has been taken to prepare SWM DPRs for rest of Urban Local Bodies (ULB's) in the State. In the last one year 1155 IHHL's have been constructed and 40 Urban Local Bodies (ULB's) have got ODF (+) certificates from Third party inspection (QCI). In the State Current Source segregation progress is 74% and MSW Processing and Disposal progress is 47%. Under SBM from March 2022 to till date an amount Rs. 310.42 crores have been released for implementation of SWM components in the Urban Local Bodies (ULB's) Karnataka.

In Swachh Survekshan 2022, Mysore, Shivamogga and Hosdurga Urban local bodies of Karnataka have bagged the awards.

Atal Mission for Rejuvenation and Urban Transformation (AMRUT)

The Central Government has launched this scheme with a 50: 50 ratio during 2015 and under this 27 cities of the state with a population of one lakh and above are selected.

Under this scheme, Govt. of India has approved Rs.4952.87 crore for the entire mission period of 5 years. Of this, about 4531.42 crores is earmarked for Water Supply and UGD schemes. A total of 407 works have been approved and 356 works for Rs.3056.40 crores are completed upto November 2022 and the balance works are under various stages of progress.

AMRUT 2.0

It is a Centrally Sponsored Scheme with the mission period of 2021-22 to 2025-26. AMRUT 2.0 is a step towards Aatma Nirbhar Bharat with the aim of making city's water secure and functional water tap connections to all households. It also targets to provide 100 % sewage/septage management in AMRUT cities of the State.

Government order has been issued to implement the AMRUT 2.0 in 287 cities/towns having less than one lakh population for total amount of Rs.9230.00 Crore including Central Assistance of Rs.4615.00 Crore. Out of this total amount Rs.539.28 Crores has been earmarked for Rejuvenation of Water bodies and Green spaces and the remaining amount of Rs.8690.00 Crore for universal coverage of water supply in all selected towns.

Smart City Mission

Government of India has launched Smart City Mission during 2015 and has contemplated to cover in five years with an objective to provide a fillip to the development of innovative smart solutions that directly impact the needs of the cities. In Karnataka 7 cities have been selected under Smart City Mission and Rs.5849.91 crore (Rs.2991.91 crore from Gol and Rs.1949.00 crores from GoK) have been released and Rs. 5061.53 crore has been spent up to end of November 2022.

Urban Transport

Urban transit is an important dimension of mobility, notably in high density areas. The spatial separation of human activities which creates the need for travel and goods transport is the underlying principle of transport analysis and forecasting.

The defining trait of urban transportation is the ability to cope with this density while moving people and goods. Density creates challenges for urban transportation because of crowding and the expense of providing infrastructure in built-up areas.

The goal of urban transportation planning is to develop a plan for an efficient, balanced transportation system for an urban area the one which will promote a desirable pattern of human activities.

Sustainable transport requires fundamental changes in transport planning practice. It requires a more comprehensive analysis of impacts, including indirect and cumulative effects, and the consideration for more solution options. Land use and urban transportations are interdependent. The use of public transportation needs to be encouraged in order to reduce the stress on land transport by private vehicle owners. In order to do this, government needs to provide a good, timely and reliable transport facilities to public. Directorate of Urban Land Transport (DULT) is working towards providing sustainable Urban Transport to the state in Karnataka like service level benchmarking in Bengaluru; preparation of policies on parking, preparation of comprehensive mobility

plans for 16 cities; feasibility studies for mass transit systems (Suburban Rail Projects) etc. It is also working in tandem with BBMP and other city corporations on Non-Motorized Transport (NMT) initiatives. DULT is also spearheading the implementation of Suburban Rail Projects in Bengaluru through K-RIDE.

Bengaluru Sub-Urban Rail Project

Bengaluru Sub-Urban Rail Project at a completion cost of Rs. 15,767.00 Crores has been taken up for implementation through a joint venture company K-RIDE. Under the project a total rail route of 148.17 kms will be constructed in four Sub-Urban Rail Corridors as detailed below;

Corridors	Section	Length in Kms.
Corridor -1	Bengaluru- Devanahalli	41.40
Corridor -2	Byappanahalli- Chikkabanavara	25.01
Corridor -3	Kengeri- Bengaluru Cantonment	35.52
Corridor -4	Heelalige - Rajanukunte	46.24
	Total	148.17

The project's implementation will be completed in 6 years and is expected to provide affordable and sustainable transport to around 8.9 lakh commuters daily and boost transit-oriented development.

Civil work for corridor-II of 25.01 km from Byappanahalli to Chikkabanavara has been awarded to L&T with a completion period of 27 months and implementation of preliminary works is in progress. Besides tenders for civil works for corridor IV from Heelalige to Rajanukunte and procurement, operation and maintenance of rolling stock on Public Private Partnership (PPP) mode will be floated.

Suburban Services in two sections by doubling of tracks

Two projects of doubling of tracks between Byappanahalli (BYPL) – Hosur (HSRA) for a length of 48 Kms and Doubling of Yeshwanthpur (YPR) – Chennasandra (CSDR) (chord line) section for a length of 21.7 Kms with electric traction and automatic signalling are taken up on 50:50 cost sharing between GoK and MoR at a revised total project cost of Rs. 812.83 Crores. This would facilitate providing Suburban Rail services in the existing long-distance tracks. For implementation of this project GoK has released Rs. 100.00 Crores so far. GoI has released Rs. 105.02 Crores.

Bus Priority Lanes

Bengaluru Bus Priority Lanes

The Comprehensive Mobility Plan for Bengaluru (2020) has set target to increase the public transport mode share to 70% by 2035 to keep Bengaluru moving efficiently. Bus transport being the backbone of mobility in Bengaluru, Bus Priority Lanes (BPL) is a critical infrastructure required for the city to promote public transport usage. The CMP proposes to implement 202 km of BPL by 2035 in addition to other measures like expansion of mass transit network, up gradation of bus fleet etc.

The Government has identified 12 major arterial roads (191 km) in Bengaluru as High-Density Corridors. The vision for HDC is to facilitate multimodal travel, with priority to sustainable modes like public transport, cycling and walking. The HDCs will be maintained to high-level of standards to ensure improved mobility for people.

Bus Priority Lanes for approx. 65 km on High Density Corridors and 21.5 km on stretches under National Highway Authority jurisdiction have been designed and shared with the respective implementing agencies.

Bengaluru Metro Rail Corporation Limited (BMRCL)

In order to augment to the public transportation in Bengaluru and also to reduce the pressure of traffic, Metro Rail has come up in Bengaluru. It is a vital component of the transformation of the urban transport scenario. With urban population continuously growing, there is a need for green solutions. Mass Rapid Transit Systems are fast, safe and comfortable to travel. This alone will encourage people to switch over from personalized vehicles to public transport.

Bangalore Metro Rail Project Phase-1 having a total track length of 42.3 Kms, is already running from past several years. East to West from Byaippana halli to Mysore Raod (18.10 Kms) and North to South from Nagasandra to Yelachenahalli (24.20 kms).

Bangalore Metro Rail Project Phase-2 consists of 4 Extensions to the existing lines and 2 New Lines. The total length of Phase-2 is 75.06 km with 61 stations (49 Elevated and 12 Underground). The estimated project cost is Rs. 30695 Crore. Reach-6 New Line (Under Ground): From Dairy Circle to Nagawara 13.76 Kms., Civil works are under progress. All works are in progress, as on November-2022 Physical and Financial progress are 73.50% & 78.20% respectively.

Bangalore Metro Rail Project Phase-2A and 2B

The construction of 58.19 km long Outer Ring Road – Airport Metro, Phase-2A Central Silk Board junction to K.R. Puram and Phase-2B K.R. Puram to Bengaluru International Airport via Hebbal at an estimated cost of Rs. 14,788.10 crore. Civil works are started and details are as below:

- ❑ **Phase-2A:** Land Acquisition has been completed. Utility Shifting is nearing to completion. Civil works are in progress.
- ❑ **Phase-2B:** 95% Land Acquisition has been completed. 70% Utility Shifting are completed. Civil works are in progress. The project is programmed to complete by September 2025.

Proposed Project:

Bangalore Metro Rail Project Phase-3:

The Government has approved to take up 45 Kms., 'Outer Ring Road- West metro' in the following routes. Kempapura to J.P. Nagar 4th Phase: 32.15 Kms and Magadi Road from Hosahalli Metro Station to Kadabagere: 12.50 Kms. These lines are proposed to be constructed through equal share holding owned by GoI & GoK.

Bruhath Bengaluru Mahanagara Palike (BBMP)

The Bengaluru Mahanagara Palike (Bengaluru City Corporation) was established in 1949 by merging two separate municipalities, which were in charge of the administration of the “City Area” and the Cantonment Area of the city and the Population of Bengaluru at that time was about 0.75 million. During 2007, Bruhath Bengaluru Mahanagara Palike was formed (BBMP) comprising of 8 zones viz, R.R.Nagar, Bommanahalli, Dasarahalli, Mahadevapura, Yelahanka, Bangalore East, Bangalore South and Bangalore West. BBMP has taken up many infrastructure projects to improve the infrastructure of the city, Flyovers, Underpasses, Grade separators, Signal free roads, road widening which smoothed the traffic flow of the city. During the year 2022-23 a sum of Rs.3000.00 crore has been sanctioned, of which a sum of Rs.2250.00 crore has been spent for special infrastructure projects.

Bengaluru Development Authority (BDA)

Bengaluru Development Authority has undertaken the formation of a new layout viz. Nada Prabhu Kempegowda Layout. About 23318 sites of different dimensions have been formed and 8680 sites have been allotted to the general public. About Rs.1169.60 crores have been spent on water supply, drainage and utility duct works and Rs. 739.76 crores spent on civil works.

Urban Local Bodies (ULB's) and Municipal Finance in Karnataka

Directorate of Municipal Administration (DMA)

Role & Responsibilities

- ❑ Nodal Agency for regulating day to day governance of 315 ULBs including Corporations in the State (except BBMP)
- ❑ Supervising administration in Corporations & ULBs as mandated in Corporations Act, Municipal Acts and its interpretation.
- ❑ Facilitating implementation and monitoring of schemes of State and Central Government.
- ❑ Formulating recruitment and service rules for corporations, municipal employees and officers.
- ❑ Regulating service delivery in Corporations & ULBs.

The Directorate of Municipal Administration is the Nodal Agency to monitor the Administrative, Developmental and Financial Activities of the Corporations & ULBs coming under its jurisdiction.

Chief Minister Amrutha Nagarothana (Municipality) Phase-4

This project is implemented in 302 ULBs with an allocation of Rs.3885.00 crore. Drinking Water Supply works, road improvement, road side drains, footpath and traffic Management, Storm water drains, improvement and construction of office building, community and public toilets, modern bus stand and market complex have been prioritized. An expenditure of Rs.6.00 crore has been incurred against the released amount of Rs.37.50 crore by completing up to the end of November 2022.

Many initiatives have been taken up by DMA in order to make the provide hassel free and citizen friendly services to people of the state. Some of them are as follows:

- ❑ Bharath Bill Payment System has been integrated with e-sweekruthi to enable online payments in all ULBs. By participating in the Bharat Bill Pay scheme, the biller will be able to receive payments from third party channels for the services provided to the customer. A biller may tie up with up to two BBPOUs to access the entire universe of its consumers and all payment channels.
- ❑ Integration of Point of sale machine (POS) with e-sweekruthi is under tender stage.
- ❑ Integration of Utilities Management (Mobile Tower and OFC) application with Gathishakti Sanchar Portal.
- ❑ Initiated for integration of Utilities Management application with common portal developed under Sevasindhu.
- ❑ About to complete IT and Non-IT works in establishing smart city data centre.
- ❑ Aasthi Khanaja (property digitization) application for the digitization of KMF-24 is developed and implemented in all ULBs.
- ❑ Training and capacity building on Aasthi Khanaja application.
- ❑ Latest information is made available in websites of all ULBs, DUDCs, DMA and UDD.
- ❑ Decision has been taken to adopt 3D drone technology in proposed GIS based property survey in pilot ULBs.

15th Finance commission Grants (2021-22)

The Central Government has allocated total of Rs.750.00 crore to the Urban Local Bodies of the State (Non-million plus cities). The grants has been divided into 2 parts – 60% Tied Grants should be compulsorily used equally for drinking water supply and solid waste management and the remaining 40% grants is Untied and can be used for other basic infrastructure facilities enshrined in the 12th Schedule.

Solid Waste Management

Solid Waste Management is one of the basic functions of the Municipalities. Rapid urbanization, heterogeneous nature of waste, lack of awareness among the public and various other stake holders, lack of appropriate infrastructure, disintegrated & unscientific approach of waste management has made the waste management into an unmanageable situation.

There are totally 315 Urban Local Bodies (ULBs) in the State including BBMP. 313 ULBs generates 11085 tons of municipal solid waste every day. As per the Solid Waste Management Rules, 2016 of Ministry of Environment, Forest and Climate Change, all the ULBs are responsible for development of necessary infrastructure for collection, storage, segregation, transportation, processing and disposal of municipal solid wastes.

Karnataka has formulated a policy on Integrated Solid Waste Management and the main objective of this policy are

- a) Providing directions for carrying out waste management activities in a manner which is not just environmentally and financially sustainable but also economically viable;
- b) Establishing an integrated and self contained operating system for Municipal Solid Waste Management (MSWM) which would include the development of appropriate means and technologies to handle various waste management activities
- c) Enhancing the ability of ULB's to provide waste management services to their citizens.

Unbalanced Growth, Inclusive Development

Regional disparities have been a prominent feature of Karnataka's economy. Economic concentration and Regional disparities are global phenomenon. Economic growth has been unbalanced in developing countries and so has been urbanization. This continues to be so in spite of State policies of providing incentives to attract private investments to backward areas. Hence, it is required to raise the living standards of people residing in backward areas by focusing on Human Development – Education, Health, Nutrition, Sanitation and improving connectivity or reducing distance.

5.3 OTHER ISSUES

E-waste

E-waste poses the huge risk to humans, animals, and the environment. E-waste typically consists of plastics, metals, cathode ray tubes (CRTs), printed cables, circuit boards, and so on. The valuable metals like copper, silver, gold, and platinum can be reused from e-wastes once they are scientifically processed. The presence of toxic substances like liquid crystal, lithium, mercury, nickel, selenium, polychlorinated biphenyls (PCBs), arsenic, barium, brominated flame retardants, cadmium, chrome, cobalt, copper, and lead makes it very hazardous, in case e-waste get dismantled and processed in a crude manner with the rudimentary techniques.

The computers, mainframes, servers, monitors, printers, scanners, compact discs (CDs), copiers, calculators, battery cells, cellular phones, fax machines, transceivers, TVs, medical apparatus, iPods, refrigerators, washing machines, and air conditioners are examples of e-waste when they become unfit for its use. The presence of highly toxic substances and heavy metals like mercury, lead, beryllium, and cadmium pose a significant threat to an environment even in minute quantities.

E-waste management is a great challenge for governments of many developing countries. It is becoming a huge public health issue and is exponentially increasing by the day. It has to be collected separately, treated effectively, and disposed of e-waste. It is also a diversion from conventional landfills and open burning. It is essential to integrate an informal sector with the formal sector. The competent authorities need to establish mechanisms for handling and treating e-waste safely and sustainably.

In this regard, Ministry of Environment, Forest And Climate Change, Government of India has framed draft rules, namely the E-Waste (Management) Rules, 2022.

E-Mobility

According to Bureau of Energy Efficiency, Ministry of Energy, Government of India, the transport sector accounts for 18% of total energy consumption in India. This translates to

an estimated 94 million tonnes of oil equivalent (MTOE) energy. If India were to follow the current trends of energy consumption, it would require an estimated 200 MTOE of energy supply annually, by the year 2030 to meet the demand of this sector. At the moment, this demand is being met mostly through imported crude oil, which therefore makes this sector vulnerable to the volatile International crude oil prices. Moreover, the sector also contributes an estimated 142 Million Tonnes of CO₂ emissions annually, out of which 123 million tonnes is contributed by the road transport segment alone.

Keeping in view the climate change commitments made by Government of India during the COP21 Summit held at Paris to reduce emission intensity by 33- 35% by 2030 from 2005 levels, it is pertinent to introduce alternative means in the transport sector which can be coupled with India's rapid economic growth, rising urbanization, travel demand and country's energy security. Electric mobility presents a viable alternative in addressing these challenges, when packaged with innovative pricing solutions, appropriate technology and support infrastructure and thus, has been on the radar of Government of India. Electric mobility will also contribute to balancing energy demand, energy storage and environmental sustainability.

Shifting to electric mobility will help India save nearly one giga tonne of carbon dioxide emissions by 2030. Each electric car on the road helps in reducing the harmful air pollution for the younger generations to come.

Waste to Resource

Waste-resources means all those materials managed by or on behalf of the Municipality as recyclable, compostable, household hazardous waste, or residual waste.

The waste-to-resource approach promotes a paradigm shift in the management of solid waste. Under this approach, rather than view waste as a problem and burden, it is seen as a valuable resource, one that can be managed to produce sustainable benefits.

Energy from waste can be used to produce heat or electricity, which might then replace the energy produced using coal or other fuels. Energy recovery of waste can thus help reduce greenhouse gas emissions. Recycling can help even more to lower greenhouse gas emissions and other emissions.

Recycling is the process of converting waste materials into new materials and objects. The recyclability of a material depends on its ability to reacquire the properties it had in its virgin state. It is an alternative to "conventional" waste disposal that can save material and help lower greenhouse gas emissions.

Green Bonds

Green bonds are bonds issued by any sovereign entity, inter-governmental groups or alliances and corporates with the aim that the proceeds of the bonds are utilised for projects classified as environmentally sustainable. The framework for the sovereign green bond was issued by the government on November 9, 2022.

Over the last few years, Green Bonds have emerged as an important financial instrument to deal with the threats of climate change and related challenges. According to the International Finance Corporation (IFC), a World Bank Group's institution, climate change

threatens communities and economies, and it poses risks for agriculture, food, and water supplies.

A lot of financing is needed to address these challenges. It's critical to connect environmental projects with capital markets and investors and channel capital towards sustainable development – and Green Bonds are a way to make that connection.

Green Bonds provide a means to hedge against climate change risks while achieving at least similar, if not better, returns on their investment. In this way, the growth in Green Bonds and green finance also indirectly works to disincentivise high carbon-emitting projects.

5.4 CHALLENGES TO URBANIZATION

Despite the various interventions, support and schemes for Urban development, there exists challenges.

Low performance in SDG Urban India Index in following parameters:

1. Percentage of houses completed against sanctioned under PMAY (Urban)
2. Total case notification rate of Tuberculosis per 1,00,000 population
3. Percentage value of smart city projects completed against tendered
4. Percentage of schools having ramp with hand rails
5. Rate of crimes against women per 1,00,000 female population
6. Coverage of stormwater drainage network (per km X 100)
7. Percentage of schools having CWSN friendly toilet
8. Number of urban poor provided credit facilities per 10,000 population
9. Data Maturity Assessment Framework Score
10. Percentage of households with any usual member covered by any health scheme or health insurance

Unbalanced Urbanization

As in the case of economic and human development, there are serious regional imbalance in urban development in Karnataka. Much of the imbalance is caused by huge gap due to Bangalore centric development w.r.t the size and economic role of Bangalore and the next largest cities in the state. The enormous advantages Bangalore enjoys pull migrants and investors to the capital city, which in turn exerts pressure on Bangalore's infrastructure and services. How to accelerate the urban development in other regions of the state without sacrificing the interest of Bangalore constitutes a formidable challenge.

Urban Land Management

Supply of serviced land is critical to urban development. The absence of a well developed urban land market and the increasing demand for serviced land has resulted in rising

land prices, speculations and growth of informal settlements. Poor land management is a serious problem in all urban areas which is reflected in violation of land use regulations.

Urban Housing

Housing is recognized as a basic human right. The population living in urban slums in Karnataka has increased from 14.02 lakh (2001) to 32.91 lakh (2011) an increase 18.89 lakhs in a decade. In other words, the slum population which was 7.8 % to the total urban population in 2001 census has been increased to 13.9 % during 2011 census. Bengaluru district has 21.94 per cent of the total slum population.

Infrastructure Gap

In spite of many initiations and programmes taken up by state government and central assisted programmes, there is a growing demand for urban infrastructure like water supply, sanitation and energy. Due to inordinate growth in urban population, sustainability of the primary source supply of safe drinking water as well as sanitation and drainage in cities and towns is posing a serious challenge.

Roads Infrastructure

Roads constitutes the arteries of cities and are critical to rapid urban development. Urban Karnataka suffers from serious deficiencies in road infrastructure like inadequate road capacity, poor quality of roads, impediments on roads such as potholes, depressions etc which hinder free movement of vehicles and leads to traffic congestion and also cause accidents.

Environmental Sustainability

Sustainable urban development is not a choice but a necessity if cities are meet the needs of their citizen. Some of the most critical problems facing our cities concern the health impacts of urban pollution generated by inadequate water, sanitation, drainage, poor waste management and air pollution. This set of problems known as 'Brown Agenda' combined with "Green Issues" such as depletion of water and forest resources, up-gradation of environmentally fragile lands, areas prone to flooding, landslides etc and the carbon emissions from energy use, industry and transport known as "Climate Change Issues" all poses serious challenges to the health of the eco system of a city and its people. To tackle these issues, an Urban Environmental Management Action Plan needs to be formulated. A city specific plan would be required for large cities like Bangalore, Hubli-Dharwad, and Mangalore, Mysore and a common strategy for other towns/cities in the state.

5.5 WAY FORWARD

- Bengaluru has the potential to become e-waste hub due to IT capital of India. E Waste Management is a great change maker in the Circular economy of this State. The E Waste Management itself can produce an estimated turnover of Rs.2,900 crores per annum in Karnataka. e-Waste Generation is the tune of 2.9 lakh MT/annum amounting to Rs.2,886 crore. Out of the total 2.9 lakh MT/annum, recovered Rs.317 crores and loss is estimated to the tune of Rs.2,569 crores. KSPCB has set up around 200 e-waste collection bins across the city and have tied up with the RWAs. There is a

need of ULBs to increase segregation at the source level so that e-waste, biomedical waste, sanitary waste, and every other kind is separated during collection.

- ❑ Currently only 32% Installed sewage treatment capacity as a Percentage of sewage generated in urban areas. Increasing Sewage segregation and treatment through Public Private Partnership (PPP).
- ❑ Government cannot rely solely on central subsidies for promoting e-mobility, and hence need to attract more private investment to the State. R & D for retrofitting & petrol and diesel vehicles can be a good option. All future purchases of government vehicles and hiring of government vehicles should be Electric Vehicles.
- ❑ Huge quantities of plastics were seen dumped at the sites without recovering the plastic for channelisation to recyclers. Hence, compulsory segregation at all levels (specifically at source) collecting and selling points will be implemented using incentivizing and disincentivizing policy options. A good example is collecting extra deposit and return that extra deposit when plastic bottles are provided back by the shops (Deposit Refund Scheme).
- ❑ Most of the plastic waste is recycled by the informal sector, waste-pickers, however, suffer from price volatility and lack of transparency in the supply chain. Hence initiatives on institutionalizing and strengthening value chains required.
- ❑ Slum dwelling should be eradicated by providing eco-friendly affordable housing.
- ❑ Climate change should be compensated by enhancing Green Building
- ❑ Proper and efficient Solid Waste Management (SWM) and optimum utilization of SWM resources
- ❑ Targeted Credit & financing for the urban poor should be implemented (similar to SIDBI's initiative for street vendors)
- ❑ Ensure that every citizen should have social security and health insurance
- ❑ Proper planning for Bengaluru – with vision 2047 by ensuring Preparation, Implementation and enforcement of laws
- ❑ Fiscal responsibility and decentralizing finance in ULB management
- ❑ Karnataka needs to work on achieving the goals set by United Nations under SDG-11 (Sustainable Cities) to be achieved by 2030.
- ❑ Need for Comprehensive State urban plan for effective and timely implementation of policies and schemes.
- ❑ Ensure access for all through adequate, safe and affordable housing and basic services and upgrade slums, transport systems for all, improving road safety, notably by expanding public transport.
- ❑ Provide special attention to the needs of those in vulnerable situations, women and children, persons with disabilities and older persons.
- ❑ Reduce the adverse per capita environmental impact of cities, through special attention to air quality and municipal and other waste management.

- ❑ Provide universal access to safe, inclusive and accessible, green and public spaces.
- ❑ Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning.
- ❑ Secondary cities and the rural areas should be developed to reduce the lopsided spatial development currently happening in India. Setting up satellite towns in Kalyana Karnataka region utilising central funds.
- ❑ Urban flooding is significantly different from rural flooding as urbanization leads to developed catchments, which increases the flood peaks from 1.8 to 8 times and flood volumes by up to 6 times. Interdepartmental coordination with Urban Development Department, water resources and KSNDMC is crucial for preparedness and control. High use of Digital technologies should be made available as well by way infrastructure development using PPP. Further effective coordination between BWSSB and BBMP is required to control floods.
- ❑ Implementation of strong regulatory framework to stop encroachments of government lands and get back the encroached lands swiftly as well.
- ❑ Special emphasis to be given for lift irrigation projects for supplying treated water from Bengaluru to neighboring dry districts through state/centre/private investments.
- ❑ Providing slums all entitlements through development of vertical slums under Public Private Partnership (PPP) and remaining land to be brought under asset monetization for generating revenues.
- ❑ City Comprehensive Mobility plans (CMP) to be completed for all cities and ULBs, prioritizing areas witnessing heavy traffic congestions.
- ❑ Implement water management and accounting measures across Urban Local Bodies (ULB's) , e.g., replicate UFW project (unaccounted for water) carried out in Bangalore to include all major cities.
- ❑ Decongestion of establishing townships on Public Private Partnership (PPP).
- ❑ Resource mobilization measures are waste to resource, timely tax collection, increasing value of land considering the market value, clean and green initiatives, green bonds, private partnerships.

APPENDIX 5.1

District-wise Urbanisation in Karnataka 2011

Sl. No.	Districts	% of Urbanisation
1	Bagalkote	32
2	Bangaluru	91
3	Bangaluru (Rural)	27
4	Belagavi	25
5	Ballari	38
6	Bidar	25
7	Vijayapura	23
8	Chamarajanagar	17
9	Chikkaballapura	22
10	Chikkmagaluru	21
11	Chitradurga	20
12	Dakshina Kannada	48
13	Davanagere	32
14	Dharawad	57
15	Gadag	36
16	Kalaburgi	33
17	Hassan	21
18	Haveri	22
19	Kodagu	15
20	Kolar	31
21	Koppal	17
22	Mandya	17
23	Mysuru	41
24	Raichur	25
25	Ramanagara	25
26	Shivamogga	36
27	Tumkuru	22
28	Udupi	28
29	Uttara Kannada	29
30	Yadagiri	19
	Karnataka	39

Source : 2011 Census

APPENDIX 5.2

Details of Districtwise houses completed under Vajapayee Urban Housing Scheme -2019 to 2022

Sl. No.	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed *
1	2	3	4	5	6	7	8	9	10	11	12
1	Bagalkot	302	462	770	292	700	334	1772	1088	654	218
2	Ballari	418	487	872	249	264	104	1554	840	488	68
3	Belagavi	387	712	840	356	910	416	2137	1484	1160	370
4	Bengaluru Rural	76	137	160	37	123	18	359	192	202	43
5	Bengaluru Urban	19	28	21	6	37	5	77	39	243	6
6	Bidar	135	139	460	43	395	53	990	235	381	91
7	Chamarajanagar	85	154	176	78	181	59	442	291	198	36
8	Chikkaballapur	141	160	208	63	166	41	515	264	240	32
9	Chikkamagaluru	46	73	141	26	64	20	251	119	206	15
10	Chitradurga	114	87	290	59	146	23	550	169	242	73
11	Dakshina Kannada	81	147	139	47	139	56	359	250	407	19
12	Davanagere	122	173	197	65	147	43	466	281	594	81
13	Dharwad	106	153	225	88	340	74	671	315	337	47
14	Gadag	364	227	713	136	327	163	1404	526	497	109
15	Hassan	68	73	99	24	128	15	295	112	248	54
16	Haveri	153	286	361	103	287	79	801	468	356	48
17	Kalaburagi	309	236	1013	78	382	120	1704	434	511	52
18	Kodagu	19	15	48	4	47	4	114	23	101	6
19	Kolar	71	135	152	48	210	32	433	215	265	22
20	Koppal	190	414	444	375	302	128	936	917	302	160
21	Mandya	57	77	110	23	144	9	311	109	263	32
22	Mysuru	225	351	366	109	317	85	908	545	521	45
23	Raichur	498	252	1955	44	247	90	2700	386	485	93
24	Ramanagara	66	139	145	68	124	43	335	250	206	32
25	Shivamogga	137	203	349	139	456	142	942	484	495	90
26	Tumakuru	115	232	268	39	214	46	597	317	414	47
27	Udupi	51	109	122	68	152	113	325	290	192	45
28	Uttara Kannada	85	162	150	35	192	35	427	232	369	52
29	Vijayanagara	427	927	1331	500	1270	734	3028	2161	317	303
30	Vijayapura	0	0	0	0	366	149	366	149	826	3
31	Yadgiri	133	214	375	120	223	133	731	467	280	95
	Total	5000	6964	12500	3322	9000	3366	26500	13652	12000	2387

* End of November 2022

APPENDIX 5.3

Details of Districtwise houses completed under-
Devaraj Urs Housing Scheme Urban-2019 to 2022

Sl. No.	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed *
1	2	3	4	5	6	7	8	9	10	11	12
1	Bagalkot	29	18	0	27	0	27	29	72	72	28
2	Ballari	46	1	0	3	0	0	46	4	5	0
3	Belagavi	90	36	0	19	0	33	90	88	285	40
4	Bengaluru Rural	7	1	0	0	0	0	7	1	24	1
5	Bengaluru Urban	1	0	0	1	0	0	1	1	2	1
6	Bidar	12	0	0	0	0	0	12	0	46	4
7	Chamarajanagar	1	0	0	0	0	0	1	0	2	0
8	Chikkaballapur	1	0	0	1	0	0	1	1	4	0
9	Chikkamagaluru	15	20	0	11	0	4	15	35	33	9
10	Chitradurga	7	0	0	0	0	3	7	3	1	1
11	Dakshina Kannada	1	0	0	0	0	0	1	0	1	0
12	Davanagere	37	6	0	14	0	12	37	32	78	5
13	Dharwad	5	4	0	4	0	0	5	8	11	2
14	Gadag	34	9	0	7	0	22	34	38	113	11
15	Hassan	7	0	0	0	0	0	7	0	6	2
16	Haveri	2	1	0	0	0	0	2	1	4	0
17	Kalaburagi	4	6	0	3	0	5	4	14	75	10
18	Kodagu	0	0	0	0	0	0	0	0	0	0
19	Kolar	1	0	0	0	0	0	1	0	1	0
20	Koppal	9	3	0	13	0	9	9	25	60	7
21	Mandya	0	0	0	1	0	0	0	1	1	1
22	Mysuru	12	8	0	4	0	4	12	16	21	1
23	Raichur	12	6	0	0	0	0	12	6	29	4
24	Ramanagara	0	0	0	0	0	0	0	0	2	1
25	Shivamogga	0	0	0	0	0	0	0	0	2	0
26	Tumakuru	12	5	0	0	0	0	12	5	8	0
27	Udupi	0	0	0	0	0	0	0	0	0	0
28	UttaraKannada	0	0	0	0	0	0	0	0	0	0
29	Vijayanagara	0	0	0	0	0	0	0	0	30	0
30	Vijayapura	134	138	0	102	0	136	134	376	329	80
31	Yadgiri	21	5	0	11	0	42	21	58	235	43
	Total	500	267	0	221	0	297	500	785	1480	251

* End of November 2022

APPENDIX 5.4

**Details of Districtwise Houses completed under
Dr.B.R. Ambedkar Nivas Scheme Urban -2019 to 2022**

Sl. No	District Name	2019-20		2020-21		2021-22		Total		2022-23	
		Target	Completed	Target	Completed	Target	Completed	Target	Completed	Target	Completed *
1	2	3	4	5	6	7	8	9	10	11	12
1	Bagalkot	283	229	480	147	136	104	899	480	234	90
2	Ballari	909	514	1389	270	277	242	2575	1026	450	149
3	Belagavi	438	318	715	110	202	234	1355	662	312	194
4	Bengaluru Rural	136	70	179	26	60	18	375	114	107	32
5	Bengaluru Urban	83	23	82	11	27	9	192	43	51	11
6	Bidar	269	200	528	72	169	66	966	338	320	67
7	Chamarajanagar	201	113	280	59	73	67	554	239	127	41
8	Chikkaballapur	144	85	225	46	69	44	438	175	125	27
9	Chikkamagaluru	40	26	65	14	21	14	126	54	42	21
10	Chitradurga	310	63	331	65	90	48	731	176	161	57
11	Dakshina Kannada	70	30	129	25	41	26	240	81	72	17
12	Davanagere	273	65	151	57	37	30	461	152	71	50
13	Dharwad	109	62	179	81	43	25	331	168	73	22
14	Gadag	219	51	194	37	68	37	481	125	179	67
15	Hassan	158	38	154	27	53	22	365	87	98	25
16	Haveri	114	45	130	28	37	27	281	100	62	15
17	Kalaburagi	356	106	612	113	199	319	1167	538	270	79
18	Kodagu	37	13	37	5	12	2	86	20	23	6
19	Kolar	78	19	137	6	52	4	267	29	113	10
20	Koppal	269	177	416	200	94	77	779	454	158	95
21	Mandya	49	27	66	16	21	7	136	50	43	17
22	Mysuru	748	318	582	155	168	121	1498	594	283	77
23	Raichur	333	110	392	31	189	80	914	221	342	89
24	Ramanagara	163	57	140	39	43	38	346	134	74	32
25	Shivamogga	173	44	132	25	44	36	349	105	74	21
26	Tumakuru	198	112	329	29	106	78	633	219	183	53
27	Udupi	22	9	45	8	14	15	81	32	31	5
28	UttaraKannada	87	48	93	18	29	20	209	86	42	20
29	Vijayanagara	0	0	0	0	117	97	117	97	201	0
30	Vijayapura	502	386	1208	322	342	617	2052	1325	435	214
31	Yadgiri	229	147	600	166	167	231	996	544	244	111
	Total	7000	3505	10000	2208	3000	2755	20000	8468	5000	1714

* End of November 2022

APPENDIX 5.5
Details of Districtwise Houses Sites completed under -
Urban House Sites Scheme-2019 to 2022

Sl. No.	District	2019-20	2020-21	2021-22	Total	2022-23
		Sites Distributed				
1	Bagalkot	122	0	0	122	4
2	Ballari	0	0	0	0	43
3	Belagavi	14	0	52	66	0
4	Bengaluru Rural	0	0	22	22	44
5	Bengaluru Urban	12	0	0	12	0
6	Bidar	0	0	0	0	0
7	Chamarajanagar	0	0	0	0	0
8	Chikkaballapura	72	16	0	88	54
9	Chikkamagaluru	0	1	0	1	0
10	Chitradurga	0	1	89	90	59
11	Dakshina Kannada	66	0	0	66	0
12	Davanagere	117	0	0	117	10
13	Dharwad	623	41	322	986	88
14	Gadag	0	0	0	0	308
15	Hassan	12	0	2	14	0
16	Haveri	0	0	44	44	0
17	Kalaburagi	0	312	0	312	0
18	Kodagu	0	0	0	0	0
19	Kolar	4	0	0	4	0
20	Koppal	0	0	0	0	296
21	Mandya	0	4	0	4	0
22	Mysuru	0	0	0	0	77
23	Raichur	350	0	324	674	0
24	Ramanagara	0	84	0	84	64
25	Shivamogga	19	7	0	26	28
26	Tumakuru	42	0	11	53	0
27	Udupi	0	0	0	0	0
28	UttaraKannada	0	0	0	0	0
29	Vijayanagar	0	0	0	0	0
30	Yadgiri	376	36	0	412	0
31	Vijayapura	46	0	0	46	0
	Grand Total	1875	502	866	3243	1075

* End of November 2022

AVALOKANA
URBAN DEVELOPMENT

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Support to BWSSB to Provide Drinking Water to Slums	6.00	3.00	4.56
Election to ULB's -Establishment	0.91	0.91	0.60
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	6.17	6.17	5.26
NadaprabhuKempgowda Heritage Site Development Authority	0.06	0.00	0.00
Administrative Expenses for KUIDFC	6.00	4.50	7.20
Elections to Urban Local Bodies in the State	35.00	2.06	1.24
Karnataka Integrated Urban Water Management Investment Programme- Jalasiri EAP	250.00	0.00	145.12
Cash loss of BMRCL	233.80	233.80	234.95
Bangalore Metropolitan Task Force	4.46	4.46	3.54
Reimbursement of Taxes & Duties to BMRCL	300.00	300.00	300.00
Capital Support to Urban Water Supply Schemes	400.00	300.00	408.99
Capital Support to Urban Sanitation Schemes	200.00	150.00	221.77
Karnataka Urban Water Supply Modernisation Project-EAP	400.00	0.00	80.18
Capital Support to Special Infrastructure Projects of Bangalore	3000.00	3000.00	3250.00
Equity Investment (BMRCL)	415.93	0.00	1095.85
Bengaluru Water Supply and Sewerage Project(BWSSP) Phase III (Cauvery Water Supply Scheme-Stage-V)-EAP	1341.84	340.03	523.57
Loans for BMRCL	564.75	8.22	697.19
Support to BMRCL for Debt Repayment	500.00	0.00	725.22
DUDC	29.80	28.86	17.68
Establishment Charges	9.85	9.95	7.09
Director of Municipal Administration	11.03	11.44	8.61
Assistance to Municipal Corporations - General	2663.89	2583.44	1652.36

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Assistance to Municipal Corporations	354.87	349.88	246.07
15th Finance Commission Grants - Corporations	666.85	185.37	116.10
PouraKarmika's Housing Scheme	15.00	15.00	25.92
Assistance to CMCs/TMCs - General	1304.60	1304.60	844.75
Assistance to CMCs/TMCs	165.66	162.46	84.27
AMRUT Nagarothana for ULBs (Excluding corporations)	150.00	75.00	29.79
15th Finance Commission Grants - CMCs/TMCs	418.84	125.65	0.00
Assistance to TPs/NACs - General	207.71	207.71	135.56
Assistance to TPs/NACs	52.97	52.77	26.25
15th Finance Commission Grants to TPs/NACs	127.31	37.82	0.00
Mahatma Gandhi Nagara Vikas Yojane	200.00	174.36	209.12
Director of Town Planning	26.10	26.17	15.94
State Urban Transport Fund (SUTF)	2.76	2.07	1.54
State Directorate of Urban Land Transport	7.37	7.32	5.95
Transfer of Urban Transport Cess to SUT Fund	63.11	0.00	0.00
Transfer of Cess on Property Tax of ULBs to SUT Fund	70.00	0.00	0.00
Bangalore Sub Urban Rail System	500.00	0.00	0.00
Augmentation of City Bus Services, Associated Infrastructure and Green Mobility	52.00	0.00	0.00
State Urban Transport Fund	70.00	52.50	35.80
CSS - Atal Mission for Rejuvenation and Urban Transformation	100.00	814.37	113.96
CSS - Mukhya Mantri NairmalyaYojane (Swaccha Bharat)	250.00	132.67	69.87
CSS - Smart City Mission	1000.00	519.00	747.56
Total	16184.64	11231.56	12099.44

An amount of Rs.16184.64 crores (including supplementary budget) has been provided for Urban Development Sector, Rs.11,231.56 crore was released and total expenditure of Rs.12,099.44 crore has been made upto the end of January 2023, out of which the productive expenditure is Rs.10,150.87 crores.

HOUSING SECTOR

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Vajpayee Urban Housing Scheme	300.00	100.00	86.99
Releases under Karnataka Real Estate (Regulation and Development) Act, 2016	8.58	11.06	10.61
Infrastructure facilities for Housing Schemes/Projects	150.00	112.50	20.02
Pradhan Mantri Awas Yojana-Urban	464.41	718.85	229.42
Payment of Government Guarantee Commission- Rajiv Gandhi Rural Housing Corporation	11.53	0.00	11.53
Ashraya-BasavaVasathi	825.00	250.00	689.43
Repayment Ashraya Loan & Payment of Interest	96.25	71.68	75.81
Dr. B.R. Ambedkar Nivas Scheme	755.00	250.00	494.58
Rajiv Gandhi Rural Housing Corporation	8.64	5.87	6.01
D.DevrajUrs Housing Scheme	175.00	175.00	86.60
Establishment Charges for KSDB	30.50	24.15	13.65
Improvement of Slums	100.00	75.00	61.07
Repayment of Ashraya Loan (Principal) - RGRHC	263.07	197.30	197.30
CSS-State Contribution under convergence of Dr BR Ambedkar Housing Scheme with PMAY(U)	250.00	250.00	245.00
CSS-State Contribution under convergence of Vajpayee Housing Scheme with PMAY(U)	100.00	100.00	100.00
CSS - Pradhan Mantri Awas Yojane Grameena	100.00	0.00	46.93
Total	3637.98	2341.41	2374.97

An amount of Rs.3637.98 crore (including supplementary budget) has been provided for Housing Sector, Rs.2341.41 crore was released and total expenditure of Rs.2374.97 crore has been upto the end of January 2023, out of which the productive expenditure is Rs.2344.68 crores.

6.1. AGRICULTURE

The Department of Agriculture implements various schemes and programmes of the Central and State Government for overall welfare of the farming community and ensures timely supply of essential inputs i.e. seeds, fertilizers, plant protection chemicals, farm equipments, micro irrigation units along with effective transfer of technology through demonstrations to achieve maximum output from the available natural resources viz. soil, water etc. This in turn leads to improvement in the economic status of the farming community and food grain needs of the people. Though the contribution of agricultural sector in the Gross State Domestic Product is less, agriculture continues to be the largest employment generating activity.

SDG-2 “ZeroHunger”

The landscape of the Karnataka development scenario is largely being emphasized on the SDG vision goals of 2030 and the ground realities that seems to be of priority focus with the agenda of bridging the glaring gaps and focus on the attainable parameters on the Growth Index in which the NITI Aayog has laid out the ratings to improve the state with the eye of the outcome driven objectives for the SDG goal 2 “ZeroHunger”. And also to adequately adapt the emerging consequences of the Climate changes on the Cropping pattern and converge on a holistic model of the integrated farming and ecosystem inter dependency. More than 70% of the population dependent on agriculture in Karnataka for livelihood can be converted to increase their per capita income which will result in the increase of the 15.1% GSDP contribution (2020-21) with High Index over the next few years, to reach at least 30% from the current \$230 billion to \$1 trillion in the next five years, in order to contribute to the national GDP target of \$5 trillion by 2025. The salient features, the challenges and the way forward in the chapter may be examined with a strategic focus on the conventional outlook to build around innovations and Agri business corridors that pushes forward the agenda of SMART Agriculture with technology enabled approach for the farming to attain higher yield and drastically reduce wastage all along the pathway towards the supply chain and market place.

LAND HOLDINGS

As per Agriculture Census 2015-16, there are 86.81 lakh farm holdings operating an area of 118.05 lakh ha. The average size of holding is 1.36 ha. Marginal and small holdings constitute 80% of total holdings and operate 44% of the total operated area, while semi-medium, medium and large holdings account for 20% of the total holdings and their operational land holding is 56% out of the total operational area. Districtwise percentage of marginal and small farmers is given in **Map - 6.1**.

LAND UTILIZATION

The net area cultivated during 2020-21 is 114.53 lakh ha. which constitutes 60.12% of the total geographical area of 190.50 lakh ha. **(Map 6.2)** 3.93 lakh ha. of area to the geographical area is cultivable waste. 7.43 lakh ha. of area is barren and uncultivable land, 8.72 lakh ha. is permanent pasture. Districtwise land utilization during 2020-21 is furnished in **Appendix 6.1**.

The government is implementing a multi-faceted strategy for doubling farmers' income focusing on seven growth factors: improved crop productivity, increased livestock productivity, cost-effective production processes, increased cropping intensity, crop diversification favouring high-value crops, access to better prices and shifting to the non-farm occupation.

The various development schemes being implemented to increase agriculture production in 2022-23 and progress achieved up to January 2023 are as detailed below:

(Rs in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
UAS Bangalore- Research and Education	262.54	223.96	186.69
UAS Dharwad Research and Education	200.88	178.30	153.91
Raichur Agriculture University Research and Education Programmes	107.47	108.91	81.54
Shimoga Agriculture University	60.71	54.83	45.44
Shimoga Agricultural University-RIDF	24.63	24.63	24.63
Raichur Agricultural University-RIDF	17.02	17.02	17.02
Bangalore Agriculture University-RIDF	30.67	30.67	30.67
RIDF Assisted Watershed Development Projects	10.27	9.07	7.28
Dharwad Agriculture University-RIDF	27.61	27.61	27.61
Scholarships to Farmers Children	1010.00	630.00	222.92
Commissionerate of Agriculture	160.01	127.46	103.52
Secondary Agriculture Directorate	5.00	0.00	0.00
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	6.42	3.00	3.54
Farmers Incentive and Support Schemes	13.59	5.86	5.82
Agricultural inputs and Quality Control	875.42	340.65	239.33
Organic Farming and Millets Programmes	20.00	9.98	8.14
Agricultural Extension and Training	2.70	1.39	1.14
New Crop Insurance Scheme	876.72	633.42	660.93
Pradhan Mantri Kisan Samman Yojane	1000.00	0.00	0.00
Agricultural Infrastructure	165.47	41.83	41.17
Executive Establishment of Agriculture Dept ZP Sector	82.72	79.68	78.77
Agricultural Office Buildings	8.26	6.76	2.87
Agriculture Training Schools	2.82	3.01	2.27
Executive Establishment of Agriculture Dept TP Sector	119.63	117.06	57.25

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Supporting Farmer Producer Organisations (FPOs)	10.00	5.05	4.89
Soil & Water Conservation - Watershed Development Department - Directorate of Watershed Development	19.17	17.41	15.62
World Bank Assisted REWARD (Rejuvenating Watersheds for Agricultural Resilience through Innovative Development) Project-EAP	100.00	50.00	33.75
Formation and Promotion of Amrith Farmers Producer Organisations	70.46	13.84	13.30
Watershed Development to prevent Drought	40.00	31.96	16.53
Watershed Development	17.74	16.88	17.16
District Watershed Development Office - Divisional & Other Establishment	22.02	20.36	20.49
Soil Conservation on Watershed Basis	1.10	0.80	0.04
CSS - Sub-Mission on Agricultural Mechanisation	280.00	83.53	83.53
CSS - Sub-Mission on Agriculture Extension and Technology	35.86	14.97	14.97
CSS - PMKSY-Watershed Development for Drought Control	65.08	96.15	53.07
CSS - PMKSY(NMSA - Chief Minister's Sookshma Neeravari Yojane)	311.38	2.85	0.02
CSS - PMKSY-Watershed Development Component	127.62	144.23	95.75
CSS - PM Formalisation of Micro food processing Enterprises (PMFME)	29.10	8.67	8.67
CSS - Sub- Mission on Seed and Planting Material	1.00	0.00	0.00
CSS - Project on Management of Soil Health	0.08	0.00	0.00
CSS - Rainfed Area Development	13.33	10.00	10.00
CSS - National Food Security Mission- Other Crops and Oil Seeds	166.67	56.15	43.84
CSS - Rashtriya Krishi Vikas Yojane (RKVY)	333.33	1.15	1.15
Total	6734.50	3249.10	2435.24

Source: Avalokana

An amount of Rs. 6734.50 Cr. is allocated in the budget for 2022-23 of which Rs.3249.10 Cr. is released upto 20th, January 2023. The expenditure incurred is Rs.2435.24 Cr. Out of the total allocation, the productive allocation is Rs. 5701.00 Cr. of which the expenditure incurred is Rs. 1686.13 Crores. (upto 20th, January 2023)

Achievements

Agricultural Production

Table 6.1 : Area and Production of Major Crops in the State

(Area in lakh hectares, Production in lakh tonnes)

Crop / Group	2022-23		2021-22	
	Area	Prodn.	Area	Prodn.
Cereals	48.92	114.81	50.80	123.95
Pulses	32.64	20.08	32.53	19.73
Total food grains	81.56	134.89	83.33	143.68
Oilseeds	12.70	12.18	12.22	11.21
Cotton #	9.15	21.48	6.87	19.53
Sugarcane (H) *	7.18	562.91	6.50	611.52
Tobacco	0.70	0.49	0.82	0.64

Lakh bales of 170 Kg. lint, * Sugarcane production for the harvested area during the year.

Source: 2022-23 Second Advance Estimates and 2021-22 Final Estimates of DE&S.

The total area cultivated under food crops during 2021-22 was 83.33 lakh ha. and the food production was 143.68 lakh tonnes. During 2022-23 it is estimated that (as per the second advance estimates) 81.56 lakh ha. of area under food crops will be cultivated with the production of 134.89 lakh tonnes. It is estimated to produce 12.18 lakh tonnes of Oil seeds during 2022-23 as against the production of 11.21 lakh tonnes in 2021-22. Similarly, it is also estimated to produce 21.48 lakh bales of Cotton during 2022-23 as against the production of 19.53 lakh bales in 2021-22.

Cropping Pattern

The State is divided into 10 Agro-climatic zones on the bases of distribution and percentage of rainfall, soil quality, height from the sea and based on major crops. On account of this varied agro-climatic features, almost all cereals, pulses, oilseeds and commercial crops are cultivated in different parts of the State. Farmers in Karnataka are very innovative and take lead in diversification as per the market trends. The average area (2017-18 to 2021-22) of agriculture crops grown in three seasons' viz. Kharif (77.17 lakh ha.), Rabi (24.72 lakh ha.) & summer (6.14 lakh ha.) is 108.03 lakh hectares. Cereals, Pulses, Oilseeds, Cotton, Sugarcane and Tobacco account for 46%, 31%, 12%, 7%, 5% and 1% respectively of the total agricultural cropped area. Maize, Wheat, Tur, Green gram and Groundnut are witnessing a higher trend in recent years, whereas crops like Jowar, Bajra, Bengal gram, Avare and Tobacco are witnessing a declining trend.

Distribution of Fertilizers

Based on the projected requirement of different grades of fertilizers for Kharif 2022 and Rabi/Summer 2022-23 (upto November 2022) 14.9 lakh tonnes of fertilizers was distributed to farmers of which 8.98 lakh tonnes is Nitrogen (N), 4.50 lakh tonnes is Phosphorus(P) and 1.41 lakh tonnes is Potash(K).

To overcome the scarcity of fertilizers at a critical period under the scheme buffer stock of fertilizers as on 25.11.2022, DAP – 10,788 tonnes, MOP- 2,431 tonnes, Complexes –15,489 tonnes, Urea – 10,273 tonnes, totally 38,981 tonnes of fertilizer has been stocked. This arrangement in turn, helped to manage the supply of fertilizers in demand situation smoothly in the state.

Distribution of seeds at subsidized rates to Farmers

During Kharif 2022 about 4.05 lakh quintals seeds of Paddy, Ragi, Jowar, Maize, Bajra, Navane, Cowpea, Greengram, Blackgram, Red gram, Groundnut, Wheat, Sunflower and Soybean have been distributed and Rs.96.32 crore subsidy amount is utilized for this purpose and 11.01 lakh farmers have been benefited. During 2022-23 Rabi/Summer 3.70 lakh quintals of seeds have been distributed and Rs.101.65 crore subsidy amount is utilized for this purpose and 5.15 lakh farmers have been benefited.

Plant Protection

In order to protect the crops from seed and soil-borne diseases and also to get higher yields, seed treatment campaigns are conducted. Training programmes are also conducted with the available funds under this scheme to create awareness among farmers regarding the safe and judicious use of pesticides.

Early monitoring, identification and guiding farmers regarding soil conditions, nutritional requirements, pest/disease identification and management as well as to reduce the indiscriminate use of chemical pesticides in order to promote good agricultural practices Mobile Plant Health Clinics are established at all districts in the State.

Farm Mechanization

Mechanization of Farm Operations helps to reduce the drudgery of farm operations, saves time, and improves efficiency and farm productivity. During 2022-23 an amount of Rs. 4064.41 lakhs of expenditure is incurred up to December 2022.

Krishi Yantra Dhare-Farm Machinery Custom Hire Service Centers

To facilitate farmers to avail the farm machinery on custom hiring basis at the hobli level, Custom Hire Service Centres were established through Charitable Trusts/ Non-Government Organizations/Farm Equipment Manufacturers in a phased manner on a PPP model. During 2022-23, an amount of Rs.6000 lakhs is provided of which Rs 93.58 Lakhs has been released. Till date 39.89 lakh farmers have been benefited.

Agro-Processing

Agro-Processing scheme is being implemented under which various agro-processing equipments are made available to farmers, Self Help Groups and Farm Women at

subsidized rates. This encourages the value addition of the farm produce and increases the income of the beneficiary. Under SCP and TSP, agro-processing units are provided to SC/ST farmer groups, women SHG's and individual farmers with an assistance of 90% or a maximum of Rs 1.00 lakh. 406 persons are benefited under Agro-processing scheme during 2022-23(Upto December 2022).

Soil Health Mission

In Karnataka, at present, 30 Soil testing laboratories (29 static & 1 mobile soil testing lab) of the Agriculture Department are catering to the needs of State farmers in respect of soil testing. In addition to this, 291 village-level soil testing labs have been established by providing subsidy to selected beneficiaries under NMSA Soil Health Management. NIC -Soil Health Card (SHC) portal is used for generation of Soil health cards. 1,30,244 soil samples have been collected, 59,149 soil samples have been analyzed as on 30.11.2022.

Micro Irrigation

During 2022-23, the Micro Irrigation programme was implemented under Prime Minister's Krishi Sinchayee Yojana (PMKSY) and Rural Infrastructure Development Fund (RIDF). During 2022-23 an amount of Rs. 21560 lakhs expenditure has been incurred upto November 2022 as against the release of Rs.28500 lakhs.

Crop Insurance Scheme-Pradhana Mantri Fasal Bima Yojana

This scheme provides insurance coverage and financial support to the farmers in the event of failure of any of the notified crop due to adverse climatic conditions, helps stabilize farm income, particularly in disaster years, to protect farmers in the event of crop failure due to natural calamities. During 2021-22 an amount of Rs.833.16 crore of claims has been settled to 8,07,281 farmers. During Kharif 2022-23, an amount of Rs.256.70 crore of claim amount has been settled to 5,02,080 farmers.

Under Restructured Weather Based Crop Insurance Scheme for Horticulture crops an amount of Rs.651.06 crore of claim amount has been settled to 3,34,641 farmers during 2021-22.

Organic farming

At present, for the promotion of Organic Farming - Organic Farming Adoption & Certification, Raitha Siri Programme, Natural Farming and Savayava Siri are being implemented in the State. Under Organic Farming Adoption & Certification programme, 26611 ha. areas of 16514 farmers have been additionally certified and steps have been taken to get more farmers certified to achieve the set target. In order to encourage Processing, Grading, Value addition, Packing and Branding of Minor millets, an assistance of 50% or maximum of Rs.10.00 lakhs subsidy are being provided under Raitha Siri Yojane.

PM KISAN - Karnataka scheme

The State Government has been providing additional financial assistance of Rs. 4,000/- in two installments under the PM Kisan-Karnataka Scheme to all eligible farmers of the Central Government's PM Kisan scheme from 14.08.2019. So far the State Government has transferred the financial assistance of Rs. 4821.37 crore for 50,35,650 farmers from the

beginning of the scheme. During 2022-23 State has transferred the financial assistance of Rs. 956.71 crore to 47,83,562 farmers.

Mukhya Mantri Raitha Vidya Nidhi Programme

Hon'ble Chief Minister has announced 'Mukhya Mantri Raitha Vidya nidhi' programme to encourage the children of farmers to pursue higher education. Under this programme, girl children from farmer families studying in class 8, 9 and 10 and children from farming families who have completed class 10 and are studying in higher courses in any registered educational institution / university in any part of state are eligible for this scholarship. The scholarship will be transferred annually to bank accounts through Direct Benefit Transfer (DBT) system.

Integrated Farming System

The main aim of Integrated Farming System (IFS) replication and popularization under RKVY during 2022-23 is to increase the income of the farmer through "integrated farming" Promoting integrated farming system covering crops, livestock & fishery, plantation and pasture based composite farming for enhancing livelihood opportunities, ensuring food & income security and minimizing risks from crop failure through supplementary/ residual production systems.

New Innovation

- ❑ In the current year, thrust has been given for Secondary Agriculture in order to enable value addition to the primary agricultural produce and create more marketing opportunities with the help of Farmer Producer Organizations in turn to achieve the doubling of farmers income, "Raitha Shakti" – a programme to provide diesel subsidy at Rs.250/- per acre subject to maximum for 5 acres to encourage the use of farm machinery and to reduce fuel expenditure burden, Natural Farming and separate Krishi Prashasthi and Krishi Pandita Prashasthi awards in order to encourage woman farmers and to attract more women towards farming are the new schemes being implemented.
- ❑ Sequestering carbon in soil, however, is a relatively natural way of removing carbon dioxide from the atmosphere with fewer impacts on land and water, less need for energy, and lower costs. Better land management and agricultural practices could enhance the ability of soils to store carbon and help to combat global warming.
- ❑ High-tech agriculture facilitates increased crop production and animal production per unit area and food security.
- ❑ Digital technologies, such as artificial intelligence (AI) and machine learning (ML), remote sensing, big data, block chain and IoT, are transforming agricultural value chains and modernizing operations. The future adoption of digital agriculture in India is anticipated to nurture under the Public-Private Partnership (PPP) mode. The Digital Agriculture Mission 2021–2025 aims to support and accelerate projects based on new technologies, like AI, block chain, remote sensing and GIS technology and use of drones and robots.
- ❑ Precision agriculture (PA) is a farming management concept based on observing, measuring and responding to inter and intra-field variability in crops. It will enhance

agricultural productivity and prevent soil degradation in cultivable land resulting in sustained agricultural development. It will reduce excessive chemical usage in crop production. Water resources will be utilized efficiently under the precision farming.

Productivity Analysis

Based on the crop cutting experiments yield data of 2018-19, the analytics done by the Centre for Open Data Research (CODR) reveals that 390 GPs require improvement across 30 districts of Karnataka especially for the critical agro-climatic zones-North Eastern dry zone, Northern dry zone and Southern Transition zone and for the specific crops i.e.,Maize, Ragi, Jowar, Paddy and Wheat.

Further the productivity of major agriculture crops based on the final estimates of 2020-21 is analysed with the comparison of state average yield (**Appendix 6.2**). The productivity of the major crops is less than the State Average as detailed below:

- ❑ **Paddy:** The State Average yield of the Paddy crop is 4766 Kgs/ha, but the yield of major Paddy growing districts namely, Uttara Kannada, Haveri, Hassan, Kalburgi, Kodagu, Belagavi, Shivamogga, Udupi, Yadgir, Mysuru and Mandya is less than the state average.
- ❑ **Jowar:** The State Average yield of the Jowar crop is 1206 Kgs/ha., but the yield of major Jowar growing districts namely, Vijayapura ,Gadag, Dharwad, Haveri, Koppal, Bidar & Yadgir is less than the state average.
- ❑ **Ragi:** The State Average yield of the Ragi crop is 1745 Kgs/ha., but the yield of major Ragi growing districts namely, Hassan, Chikmagalur, Belagavi, Davangere, Ballari, Chitradurga, Tumkur, Mandya and Mysuru is less than the state average.
- ❑ **Maize:** The State Average yield of the Maize crop is 3689 Kgs/ha but the yield of major Maize growing districts namely, Gadag, Koppal, Dharwad, Haveri & Vijayapura is less than the state average.
- ❑ **Wheat:** The State Average yield of the Wheat crop is 1292 Kgs/ha but the yield of major Wheat growing districts namely, Koppal, Haveri, Dharwad, Raichur, Gadag, Vijayapura, Yadgir, Ballari & Bidar is less than the state average.
- ❑ **Tur:** The State Average yield of the Tur crop is 759 Kgs/ha, but the yield of major Tur growing districts namely, Tumkuru, Belagavi, Vijayapura, Koppal, Mysuru, Chitradurga, Kolar, Raichur, Chikkaballapur, Ramanagar & Ballari is less than the state average.
- ❑ **Bengal Gram:** The State Average yield of the Bengal Gram crop is 625 Kgs/ha, but the yield of major Bengal Gram growing districts namely, Gadag, Koppal, Davangere, Dharwad, Haveri, Bidar & Vijayapura is less than the state average.
- ❑ **Groundnut:** The State Average yield of the Groundnut crop is 1000 Kgs/ha, but the yield of major Groundnut growing districts namely, Gadag, Vijayapura, Tumkuru, Chitradurga, Raichur, Koppal & Chikkaballapur is less than the state average.
- ❑ **Sunflower:** The State Average yield of the Sunflower crop is 895 Kgs/ha, but the yield of major Sunflower growing districts namely, Gadag, Dharwad, Kalburgi & Koppal is less than the state average.

Special emphasis has to be given to the above districts to increase the productivity of the major agricultural crops.

Utilization of Cultivable Waste

Geographical area of the State is 190.50 lakh ha., of which 7.8 lakh ha. is fallow and 4 lakh ha. is Cultivable waste (2020-21) which can be productively reclaimed/cultivated to improve our GDP. 7 districts constitute more than 50% of the Cultivable Waste, which can be used for cultivation by incentivizing Agro-forestry & horticulture crops at the rate of Rs.40,000 per hectare.

Sl. No.	Districts	Cultivable Waste (Area in hectares)	% to Geographical Area
1.	Udupi	30258	8.5
2.	Mandya	41955	8.4
3.	Tumkur	62642	5.9
4.	Dakshina Kannada	17860	3.7
5.	Bidar	19381	3.6
6.	Mysore	21407	3.2
7.	Raichur	20084	2.4
	Total	213587	

The district wise cultivable waste and its percentage to total geographical area is given in **Appendix 6.3** and in **Map - 6.3**.

Area to be brought under Integrated farming

As per 2020-21 cropping pattern, the net area cultivated in the state is 114 lakh ha., of which only 35 lakhs ha. (31%) of area is cultivated more than once. The remaining 79 lakh ha. of area has to be brought under integrated farming systems or multi cropping. The district wise information is given in **Appendix 6.4**.

Area to be brought under Irrigation

The net area cultivated under different crops during 2020-21 is 114.53 lakh ha. of which net area Irrigated is 49.31 lakh Ha. Hence, the remaining 65.22 lakh ha. has to be brought under Irrigation in phases based on the dominant crop grown which is prone to higher yield upon irrigation. District wise information is furnished in **Appendix 6.5**.

Alternate crops to be cultivated in over exploited Ground water talukas

There are 47 over exploited talukas of groundwater in the state as on March 2022. They are spread among 15 districts of which Bengaluru Rural, Bengaluru Urban, Chikkaballapura, Kolar are growing high intensity crops. Agriculture/Horticulture Departments needs to promote alternate remunerative less water consuming crops. Districtwise and Talukwise high intensity crops grown and proposed alternate crops for 6 districts is given below.

Districts	Over exploited Talukas	Crop grown	Area in hectares	Alternate crops
Bagalkote	Bagalkote	Sugarcane	7119	Sunflower
Bengaluru Rural	Devanahalli	Grapes	1457	Sunflower
	Doddaballapura	Arecanut	1646	Sunflower
	Hoskote	Mulberry	1181	Sunflower
Chikkaballapura	Bagepalli	Tomato	1535	Sunflower
	Chikkaballapura	Grapes	1612	Sunflower
	Chintamani	Tomato	2740	Sunflower
	Shidlaghatta	Mulberry	4915	Sunflower
Chikkamagaluru	Ajjampura	Arecanut	6508	Mango
Tumkur	Tumkur	Arecanut	11354	Mango
	Sira	Arecanut	8213	Mango
Davangere	Channagiri	Arecanut	32475	Mango
		Paddy	12005	Mango

Ground water status as on March 2022 is shown in **Map 6.4**.

Climate Adaptive Agriculture and Sustainability

The National Mission for Sustainable Agriculture, in tandem with other missions under the National Action Plan on Climate Change, addresses the climate change risks and aims to increase agriculture productivity especially in rainfed areas focusing on integrated farming, soil health management and synergising resource conservation. Under National Innovations in Climate Resilient Agriculture (NICRA), climate-resilient technology demonstrations are implemented in climatically vulnerable districts which aim to enhance farmers' adaptive capacity and skills for resilient climate agriculture.

6.2 WATERSHED DEPARTMENT

Karnataka has a total geographical area of 190.50 lakh ha., out of which 129.70 lakh ha. area is available for watershed interventions. So far, (Upto March 2022) 72.00 lakh ha. rainfed area has been developed with watershed interventions. The remaining area of 57.70 lakh ha. will be treated with scientific watershed interventions in phased manner.

Pradhana Mantri Krishi Sinchayee Yojane

The main objective of the programme is creation of small water harvesting structures/ renovation, distribution of pre-cast pipe system, renovation of borewell/dugwell, water lifting devices and linking them with micro-irrigation. Under this programme 679 different water harvesting structures have been constructed and linked with micro-irrigation and an area of 1018 ha. is brought under protective irrigation.

World Bank Funded REWARD Programme

World Bank has selected Karnataka to lead other states as a Light House partner for REWARD (Rejuvenating Watersheds for Agricultural Resilience through Innovative

Development), which is a new multi-state watershed development programme funded by the World Bank. State Government allocated Rs.100 Cr. budget for 2022-23 and till the end of November 2022 Rs.50 Cr. was released and Rs.22.09 Cr. expenditure has been incurred.

Watershed Development to Prevent Drought (WDDP)

The main objective of this programme is to treat the balance untreated watershed area in the State-100 drought hit and low ground water level talukas and in 1005 micro watershed for a period of five years from 2019 to 2024 to implement drought proofing watershed activities.

National Mission for Sustainable Agriculture Rain-fed Area Development Program (NMSA-RAD)

RAD aims at promoting Integrated Farming System (IFS) with emphasis on multi-cropping, rotational cropping, inter-cropping, mixed-cropping practices with allied activities like horticulture, livestock, fishery, agro-forestry, apiculture, conservation/promotion of NTFPs etc.

Farmer Producer Organizations (FPO)

Formation and promotion of FPOs: Under Centrally Sponsored Scheme, 100 Farmer Producer Organizations are formed and promoted. During 2022-23 an amount of Rs.10.97 Cr. was available and an expenditure of Rs.8.63 Cr. has been incurred. The formation and promotion of Farmers Producers Organization (FPOs), are expected to address the many challenges faced by individual small and marginal farmers especially in marketing of the agriculture produce. These organizations are created depending upon the needs of the producers considering the demand potential to adopt a value chain approach to enhance producer's economic and social benefits.

Amrith Formation & Promotion of FPOs: Target of 750 Amrith FPOs was announced for formation and promotion of FPOs, with 250 FPOs per year to be created for a period of 3 years. The Formation and promotion of Amrith FPOs was started from the year 2021-22 and so far 344 Amrith Farmers Producer Organizations have been created by the concerned implementing departments in Agriculture, Horticulture, Sericulture, Animal Husbandry and Textile & handloom sectors. During 2022-23 under Amrith FPOs formation & promotion programme an amount of Rs.70.46 Crore is allocated of which Rs.17.615 Crore is released. The expenditure incurred is Rs.13.51 Crore up to November 2022.

NABARD-RIDF Tranche -27

This programme is implemented from 2021-22 to 2023-24 for 3 years with total project amount Rs.25.00 Crore. The main objective of the scheme is soil and water conservation and is implemented in 10 districts of 10 sub-watershed with upper reach treatment with Rubble check & Boulder check and drainage treatment with different water harvesting structure. During 2021-22, Rs. 4.80 Crore was released and an expenditure of Rs. 4.78 Crore has been incurred. During 2022-23, Rs. 10.27 Crore was allocated of which Rs.10.27 Crore is released up to the end of November 2022.

6.3 AGRICULTURE MARKETING

Agricultural Marketing aims to develop and regulate participative, transparent and scientific agricultural marketing system with adequate infrastructure and user-friendly e-initiatives in the state to promote and encourage participatory and equitable socio-economic development of people and especially farmers through a vibrant agricultural marketing system.

Rashtriya e-Market Services Limited (ReMSL)

On line trading system is being implemented to sell the agricultural produce of the farmers in the markets through the electronic trading system. Actions are being taken to ensure transparency, simplify the marketing procedures, ensure a competitive price for farmers' produce by introducing technology in all market activities including auction system, price discovery and payment of sale proceeds to farmers on line. The arrangement is being made to link different markets in the state by the introduction of technology and facilitating the traders of different markets in the state to participate in buying of commodities online from any of the markets of the state where the farmers have offered for sale.

So far, 156 markets are brought under Unified Market Platform. The Unified Market Platform has transacted 9.12 Cr. MTs of agricultural commodities worth Rs. 2,63,715.82 Cr.

Minimum Floor Price

To ensure sustainable development and stability in the agricultural sector and to protect the interest of the farmers against distress sale of agricultural commodities, whenever the rates of such commodities go down, the Floor Price Scheme for Agricultural/Horticultural commodities in Karnataka is implemented. 2,57,308.80 quintals of Greengram has been procured at an estimated cost of Rs.199.54 Cr., benefiting 22,181 farmers during 2022-23.

For providing infrastructure facilities to Agriculture Marketing a total of 890 works with an estimated cost of Rs.319.61 Cr. have been completed under RIDF-24. Under RIDF-28, a total of 54 works with an estimated cost of Rs.396.00 Cr. have been approved.

Integrated Agribusiness Developmental Initiatives in Karnataka

- ❑ Karnataka with its ten different agro-climatic zones and other bounteous natural advantages offers immense opportunities for high growth in agriculture and allied sectors.
- ❑ It is imperative that Karnataka takes advantage of the modern practices, technologies and develop strategies to leverage the growing demand in both domestic and international markets.
- ❑ Thrust areas requiring priority attention would include improving production and productivity, reducing production cost, wastage reduction, increasing value addition.
- ❑ Integrated nutrient management, organic farming, integrated pest management, protected cultivation / greenhouse technology,
- ❑ Post harvest management, adoption of state of the art food processing technologies, focusing on high unit value realization in export markets, etc.

- ❑ As an initial step towards this ambitious goal, “Agri Business Corridor for Karnataka” initiative is covering entire stretch of the state starting from Chamarajanagara in the South to Belgavi and Kolhapur in the North.
- ❑ The important measureable expected outcomes from this programme are: Doubling Farmer’s Income, Grading and food safety practices, Reduction in post-harvest losses sustainable farming practices & traceability.

Current Status of ODOP in Karnataka

In the 2021-22 Karnataka Budget, the State government plans to give a big push to the “one district, one product” policy for exploiting the potential of unorganized micro-food processing by offering credit, avenues for the marketing of products, and technical know-how. Under this scheme, the State has identified and approved 20 districts for horticultural products, six for agricultural products, two for marine products, one for poultry, and one for bakery products. The products in each district were chosen on the basis of their availability, status of current processing, and scope of marketing.

Under the policy, one product in each district is identified and entrepreneurs involved with these products are eligible to avail credit-linked capital subsidy at 35% of the project cost, with a maximum ceiling of ₹10 lakh per unit. The maximum credit will be ₹30 lakh per project.

Table 6.2 : List of One District One Product

Sl. No.	District	Product	Sl. No.	District	Product
1.	Bagalkote	Onion	16.	Haveri	Mango
2.	Belagavi	Jaggery	17.	Kalaburgi	Red Gram
3.	Bellary	Fig	18.	Kodagu	Coffee
4.	Bengaluru Rural	Poultry Products	19.	Kolar	Tomato
5.	Bengaluru Urban	Bakery Products	20.	Koppal	Guava
6.	Bidar	Ginger	21.	Mandya	Jaggery
7.	Chamarajanagar	Turmeric	22.	Mysore	Banana
8.	Chikkaballapura	Tomato	23.	Raichur	Chillies
9.	Chikkamagalur	Spices	24.	Ramanagara	Coconut Products
10.	Chitradurga	Groundnut Product	25.	Shivamogga	Pineapple
11.	Dakshina Kannada	Marine Products	26.	Tumkuru	Coconut Products
12.	Davanagere	Millets	27.	Udupi	Marine Products
13.	Dharwad	Mango	28.	Uttara Kannada	Spices
14.	Gadag	Byadagi Chillies	29.	Vijayapura	Lime/ Lemon
15.	Hassan	Coconut Products	30.	Yadagiri	Groundnut Product

The Farmer Registration & Unified Beneficiary Information System (FRUITS)

The Farmer Registration & Unified Beneficiary Information system or FRUITS software, facilitates single registration using an Aadhar card and Karnataka's Bhoomi digitized land record system for authenticating ownership. Through FRUITS, farmers can access benefits of hosts of schemes such as Direct Benefit Transfer under PM Kisan, Payment for Minimum Support Prices (MSPs) for crops, special financial assistance, caste certificate authentication and ration cards. It allows various departments to access information about the farmers under a single Platform, which ensures better targeting and effectiveness in the implementation of the schemes. It is also integrated with Karnataka state Natural Disaster Monitoring Centre, from which daily weather and rainfall data are provided to farmers based on their locations. More than 7.8 million farmers have been registered with FRUITS software, out of this more than 6.2 million farmers have registered their land records. This also helps in assessing robust assessment of the production of various crops including Paddy, Ragi, Jowar, Tur, Bengalgram, Ground nut and Copra and helps in crop survey and for settlements of claims under the crop insurance scheme.

Challenges and Way forward

- ❑ Based on the crop cutting experiments yield data of 2018-19, the analytics reveals that 390 GPs require improvement across 30 districts of Karnataka especially for the critical agro-climatic zones-North Eastern dry zone, Northern dry zone and Southern Transition zone and for the specific crops i.e.,Maize, Ragi, Jowar, Paddy and Wheat.
- ❑ **Utilization of Cultivable Waste:** Geographical area of the State is 190.50 lakh ha. of which 7.8 lakh ha. is fallow and 4 lakh ha. is Cultivable waste which can be productively reclaimed/cultivated to improve our GDP. Seven districts namely Udupi, Mandya, Tumakuru, Dakshina Kannada, Bidar, Mysore and Raichur constitute more than 50% of the Cultivable Waste, which can be used for cultivation by incentivizing Agro forestry and horticulture crops at the rate of Rs.40,000 per hectare.
- ❑ **Area to be brought under Integrated farming:** As per 2020-21 cropping pattern, the net area cultivated in the state is 114 lakh ha, of which only 35 lakhs ha. (31%) of area cultivated more than once. The remaining 79 lakh ha. of area has to be brought under integrated farming systems or multi cropping.
- ❑ **Area to be brought under Irrigation:** The net area cultivated under different crops during 2020-21 is 114.53 lakh ha. of which net area irrigated is 49.31 lakh ha. Hence, the remaining 65.22 lakh ha. is to be brought under irrigation in phases based on the dominant crop grown which is prone to higher yield upon irrigation.
- ❑ **Alternate crops to be cultivated in over exploited Ground water talukas:** There are 47 over exploited talukas of ground water in the state as on March 2022. They are spread among 15 districts of which Bengaluru Rural, Bengaluru Urban, Chikkaballapura, Kolar are growing high intensity crops. Agriculture/Horticulture Departments needs to promote alternate remunerative less water consuming crops.
- ❑ Special emphasis has to be given to those districts where the productivity of major crops namely Paddy, Jowar, Ragi, Maize, Wheat, Tur, Bengal Gram, Groundnut and Sunflower is less than the state average.
- ❑ Initiation of a Crop Demonstration/ IFS model Project under the National Food Security Mission (NFSM) scheme (covering a plot of 1 ha) per GP.

- ❑ Promote and Incentivize FPO's to leverage Agri-tech startup solutions, create brand Karnataka for fruits, vegetables and other products in global markets to improve product demand and provide opportunities for exports.
- ❑ Drought proofing-watershed development, efficient resource use (micro-irrigation), promoting climate-resilient crops.
- ❑ Seed to sales single window centers, promote sustainable agri-practices, Incentivize Food processors, Commodity specific digital platforms, 2-3 identified projects in each village leveraging PPP model, Incentivize banks to tap into opportunity of rural agriculture financing.

6.4 HORTICULTURE

Horticulture sector has emerged as an important component of the economy of our State and has contributed more than one third share to the economy of agriculture and allied sectors. In many dry regions of the State, Horticultural crops have evolved as an alternative crop to agricultural crops. In 2020-21 Horticulture crop covers an area of 26.20 lakh hectares and the annual production is 241.50 lakh Metric Tons. The average productivity of horticultural crops in the State is 9.22 Metric Tons per hectare. The annual value of Horticultural products produced in the State is Rs.66,263 crore and constitutes 29.55% of the total income from entire agriculture sector. The share of Horticultural produce in total GSDP of the state was 5.50%. Karnataka is awarded **“Best State for Horticulture 2022”** for promoting horticultural development and production in the state during the 13th Agriculture Leadership Awards 2022.

The State has undertaken several initiatives to boost the growth in this sector. The major initiatives include Area expansion programme, Providing micro irrigation under Pradhana Mantri Krishi Sinchayi Yojane, Horticulture extension and training, Disease and pest management, Rashtriya Krishi Vikas Yojane (RKVY), Comprehensive Horticulture Development, Assistance to Horticulture Boards and Corporations, Biotechnology, Apiculture and Paramparagath Krishi Vikas Yojana.

Schemes being implemented during 2022-23 and financial progress achieved up to 20th January 2023 to increase the growth in this sector are as mentioned below.

(Rs. in Crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Directorate of Horticulture	121.41	114.66	88.38
2.	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.13	0.13	0.09
3.	Central Sector-Integrated Farming in Coconut for Productivity Improvement Programme	12.50	2.25	2.24
4.	Assistance to Horticulture Boards and Corporations	4.00	4.00	4.00

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
5.	Coconut Development Programme	1.00	0.37	0.00
6.	Comprehensive Horticulture Development	76.00	35.18	21.48
7.	Development and Maintenance of Farms and Nurseries	7.50	8.91	5.27
8.	Development of Departmental Laboratories	9.00	6.56	3.37
9.	Scheme for Integrated Control of Pests & Diseases of Horticultural Crops	5.00	4.96	4.29
10.	Maintenance of Horticulture Department Buildings	2.00	1.00	0.77
11.	Horticulture Parks and Gardens	25.00	9.75	8.20
12.	Bagalkot Horticultural University	90.90	78.00	67.26
13.	Development of Madhuvana and Apiculture	4.00	3.04	2.20
14.	Horticulture Infrastructure Development- NABARD Works	34.16	8.54	8.54
15.	Executive Establishment of Horticulture Dept ZP Sector	156.12	157.70	167.63
16.	Horticulture Buildings	9.14	7.54	4.11
17.	Maintenance of Horticultural Farms	3.73	3.69	3.04
18.	Publicity and Literature	2.74	2.59	1.68
19.	Apiculture Development Programmes in ZP sector	3.16	3.06	3.14
20.	CSS – Paramparagat Krishi Vikas Yojane	5.77	5.77	5.77
21.	CSS – Pradhana Mantri Krishi Sinchayi Yojane	137.20	115.44	115.44
22.	CSS – Pradhana Mantri Krishi Sinchayi Yojane	415.00	173.65	173.65
23.	CSS - National Mission on Edible Oil- Oil Palm	8.16	2.48	2.48
24.	CSS - National Horticulture Mission	150.30	85.88	69.89
	Total	1283.92	835.15	762.92

Source: Avalokana

An amount of Rs. 1283.92 crores is allocated in the budget of which, Rs. 835.15 crores is released upto 20th, January 2023. The expenditure incurred is Rs. 762.92 crores. Out of

the total allocation, the productive allocation is Rs. 928.06 Cr. of which the expenditure incurred is Rs. 449.28 crores (upto 20th, January 2023).

Achievements

Area under Horticultural crops for the period 2019-20 and 2020-21.

Table 6.3: Category wise Area under Horticultural Crops (in Lakh Ha.)

Year	Fruits	Vegetables	Spice Crops	Garden / Plantation	Commercial Flowers	Medicinal Plants	Aromatic Plants	Total
2019-20	3.98	4.41	3.08	12.10	0.34	0.01	0.01	23.93
2020-21	4.32	5.21	3.32	12.95	0.38	0.01	0.01	26.20

Source: Directorate of Horticulture

26.20 lakh hectares of area was under Horticulture crops during 2020-21 as against the area of 23.93 lakh hectares in 2019-20, which indicates that 2.27 lakh hectare of area was increased during 2020-21. Of the total 26.20 lakh hectares of Horticulture crops during 2020-21, garden and plantation crops constitute 49.43%, Vegetables 20% and Fruits 16.48%.

(i) National Mission on Edible Oil - Oil Palm

India imports around 133.52 lakh tones of edible oils costing around 80,000 crore. Therefore, in order to achieve self-sufficiency in edible oil production, both Central and State Govt. are encouraging oil palm cultivation. As per the reassessment by Indian Institute for Oil Palm Research in 2020, Karnataka has the potential to grow Oil palm in an area of about 72642 ha. Since, Oil Palm is a water loving crop, its cultivation is mainly taken up in 18 districts which come under Command areas of Cauvery, Bhadra, Thungabhadra, Krishna, Malaprabha and Ghattaprabha and in 5 districts in non-command areas through PPP model.

In order to protect the interest of oil palm farmers, oil palm entrepreneurs and oil palm industry as a whole, the State Government has passed the "Oil Palm Cultivation, Production and Processing regulation Bill" during the year 2013. Currently in the State, around 5989 farmers are cultivating oil palm in an area of 8137.27 ha. out of which 2372 ha. is yielding. The annual production of oil palm FFBS is about 19184.22 M.T, from which 3303.52 M.T of Crude Palm Oil (CPO) is being extracted.

(ii) Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

Water is the most important input in Agriculture sector especially for Horticulture crops. Micro Irrigation system not only increases the water use efficiency, it also helps in improving yield, quality of produce, reduced dependency on labour and in reducing weed menace under Per Drop More Crop component. Karnataka is one of the pioneering states in recognizing the advantages of Micro-Irrigation (Drip Irrigation & Sprinkler Irrigation) and has been promoting its use among the farmers. Under the scheme, subsidy is provided for installation of drip irrigation for all Horticulture crops except Coffee, Tea and Rubber. Under Pradhan Mantri Krishi Sinchayee Yojane around 4700 hectares area is covered under drip irrigation benefitting 4,600 farmers across the state, of which, 1,130 SCP and 955 TSP beneficiaries.

(iii) National Horticulture Mission (NHM)

Adoption of protected cultivation method, rejuvenation of the unproductive orchards, rain water harvesting, organic farming, induction of Integrated Nutrition Management (INM) and Integrated Pest Management (IPM), providing post harvest support, improving marketing, enhancing the technical knowledge and skills of farmers, extension officials and entrepreneurs through an array of training programmes.

To promote Post Harvest Management in Horticulture crops 2,400 activities have been undertaken covering 1150 beneficiaries. Similarly, to strengthen horticulture sector, 665 Farm machinery is distributed to 500 farmers. Adopted protected cultivation in 960 hectares of area covering 720 beneficiaries and constructed 484 farm ponds to harvest rain water and improve ground water levels.

(iv) Biotechnology

Department of Horticulture has developed Biotechnology Centres at Hulimavu, Belagavi, Davangere, Shivamogga and Mysore all of which have been actively functioning. Germplasm conservation, production of tissue culture saplings, mushroom development, production of Bio-fertilizers and Bio-pesticides, soil, water & leaf analysis are the important production and service providing activities being carried out in these centres. Propagation of horticulture crops including medicinal and aromatic plants and production of fruit grafts/seedlings, is also an important activity of the centre. Around 17,186 leaf and soil samples were analyzed to recommend essential nutrients deficient in horticulture crops and soils and issued 71 number of Plant Sanitation Certificates to promote export of horticulture products of the state. During the year 2022-23, 1.23 lakhs Tissue Culture plants, 26 tonnes of bio-fertilizers and 9245 liters of Liquid biofertilizers have been produced upto the end of November-2022.

(v) Paramparagath Krishi Vikas Yojana (PKVY)

It primarily aims to increase soil fertility and thereby helps in production of healthy food through organic practices without the use of agro-chemicals. During the year 2022-23, an amount of Rs.576.58 lakhs has been released and the entire amount has been spent up to January 2023.

(vi) Research on arecanut yellow leaf disease and financial assistance to the alternate crops

Farmers are encouraged to grow other crops such as banana, coconut, coffee, cocoa, pepper, nutmeg, butter fruit, rambutan, litchi fruit, cinnamon, cloves, oil palm and other crops In areas affected by arecanut yellow leaf disease, by providing 50% subsidy of unit cost allocated for various crops under the MGNREGA scheme. During 2022-23, an amount of Rs.714.85 lakhs has been allocated and Rs.564.85 lakhs has been released upto January 2023.

(vii) Apiculture Development Programme

Apiculture being beneficial to mankind, is emerging as a profitable industry providing export opportunity. Apiculture plays a major role in providing financial independence to the bee keepers. As Honey bees help cross-pollination in Horticulture and Agriculture

crops, high and good quality yield can be obtained. Having many medicinal properties, honey is the gift of nature to the human kind and Bee keeping can be practiced without much investment by landless small and marginal farmers, women and handicapped. Around 2,500 beneficiaries have received scientific beekeeping training and a total of 7,950 honey boxes have been distributed.

(viii) Horticulture training programme: 11 training centers are functioning in the department. Every year 400-450 farmers children are being trained.

(ix) Horti-clinic Activities: At present one State level and 28 district level horti-clinics are functioning to create awareness among the farmers about the new technologies developed for horticulture and to conduct training programmes and study tours to farmers.

(x) Integrated Pest and Disease Management in Horticultural Crops: It is implemented to increase the yield of Horticultural crops by protecting them from pests and diseases. During 2022-23, an amount of Rs.500.00 lakhs has been allocated for parasite and brachymeria production and to provide subsidy to farmers. As on November- 2022, Rs.500.00 lakhs has been released, out of which Rs. 426.58 lakhs has been spent. There are 24 parasite laboratories in the department where in, 86.12 lakh Goniozus parasites and 330.00 Kg. Isaria were produced and distributed to the beneficiaries during 2022-23 (up to November 2022).

(xi) Incentives for Post Harvest Management Activities in Horticulture

Due to improper Post-Harvest management activities, the losses of Fruits and Vegetables account for 20 to 22 percent. To prevent the post-harvest loss of horticultural products and to provide incentives to entrepreneurs/FPOs with greater emphasis on processing of horticultural crops and value added processing units an amount of Rs. 1099.50 lakh has been provided to cover 1048 beneficiaries under this scheme for 2022-23.

(xii) Farmer Producers Organization (FPO)

To address the issues being faced by the small and marginal farmers pertaining to crop production, technology, Supply of inputs, marketing, investments etc., the farmers are being collectivized to form Farmer Producer Organizations that are owned and governed by the farmers itself. The scheme supports horticulture farmers to increase the productivity level and also the income resulting in livelihood security. Department is successful in registering 163 FPOs till date. During 2021-22 and 2022-23 Under "Formation and Promotion of Amrith FPO" programme, financial assistance of Rs.8.74 lakhs has been provided for first year formation and maintenance of each FPO.

(xiii) Karnataka State Mango Development and Marketing Corporation

There are two Mango Development Centers comes under the Corporation, namely Hogalagere Horticulture Farm, Srinivasapur taluk in Kolar district and Madikere, Chintamani taluk in Chikkaballapur district. During the year 2022-23 and an amount of Rs.50.00 lakhs has been earmarked of which, Rs.48.14 lakhs has been spent up to November 2022. Mango growers are being educated and trained about pre-harvest and post-harvest through demonstrations and technology dissemination.

(xiv) Karnataka State Spices Development Board

Karnataka is one of the prominent spice growing states in India. There is a need to have a greater attention in increasing the area of spices, improvement in production, productivity and market infrastructure and to encourage for production of export quality spices and value addition for which, "KARNATAKA STATE SPICES DEVELOPMENT BOARD, HUBBALLI" is created. For the year 2022-23 an amount of Rs.40.00 lakhs is provided and entire amount is spent for various developmental activities.

(xv) Under Integrated Farming in Coconut for Productivity Improvement Programme, 62500 coconut nurseries are developed during the year 2021-22.

(xvi) Karnataka State Horticulture development Agency (KSHDA)

Seeds and planting materials of different Horticulture crops are produced and supplied to farmers at departmental rates in different Horticultural farms and nurseries. During 2022-23 as against the target of 78.42 lakhs of grafts/seedlings, 12.67 lakhs of grafts/seedlings have been produced till November-2022.

Other Achievements

- ❑ To enhance the efficiency in implementation of the programmes, department has developed an IT application HASIRU (Horticulture Application for Scheme Implementation and Regulating Utilization of Funds) for handling all the beneficiary oriented schemes.
- ❑ An innovative technology for tissue culture production of seed potato to overcome dependency on seed tubers from Northern India. Apical rooted cuttings technology has been successfully demonstrated in association with UHS, Bagalkot.
- ❑ Technical guidelines are issued for controlling Arecanut Yellow Leaf Disease and other major diseases and pests.
- ❑ Market interventions through Farmer Producer Organization (FPO) are provided.
- ❑ Under various farmer-oriented schemes of the department 50,335 farmers and around 28,000 hectare area is brought under Horticulture Crops. Around 573 hectares are unproductive horticulture crop area is rejuvenated. Catered the farming community with 60 lakh quality seedlings and grafts of various Horticultural Crops.

CHALLENGES & WAY FORWARD

- ❑ During Covid-19 pandemic, the state experienced marketable surplus of 47.60 lakhs metric tonnes of Fruits and Vegetables due to lack of cold storage and processing centers. Marketable surplus was high in Kolar, Chikkaballapura, Chitradurga, Haveri, Belagavi, Vijayapura, and Bagalkote districts when compared to other districts. In these districts cold storage and processing units are to be increased to accommodate the marketable surplus.
- ❑ Food processing and cold storage units in Vijayapura, Belagavi, Bagalkot, Kalburgi to save 30% post-harvest losses.
- ❑ Create end to end (e2e) value chains for export-oriented Food Parks and Infrastructure

and Cold chain infrastructure (Chilli in Byadagi, Rose onion in Chikballapur, Coffee in Chikkamangaluru, Hassan and Kodagu).

- ❑ Promote coffee plantation tourism in regions like Coorg, Kodagu, Chikkamagaluru by developing experiential plantation stays and promoting coffee tourism packages e.g. Tea tourism packages offered by government of West Bengal.
- ❑ Promote sustainable agri-practices by creating awareness of the existing schemes around subsidizing micro-irrigation (Per Drop More Crop, Micro-Irrigation Fund), preserving soil health (Paramparagath Krishi Vikas Yojana, Soil Health Card) and host of initiatives under National Mission for Sustainable Agriculture. Prioritize districts like Belagavi, Raichur, Vijayapura, Bagalkote which have high potential for micro irrigation.
- ❑ Promote and Incentivize FPO's to leverage Agri-tech startup solutions to get real time market intelligence, D2C inputs, and market linkages to improve D2C business thus improving farmer earnings.
- ❑ Collaborate with FPOs to train farmers around soil protection practices such as residue mulching, no till farming, growing a cover crop or forage, managed grazing, using compost and bio fertilizers, drip sub fertigation, agro-forestry, integration of crops with trees and livestock, recycling of all bio waste on land.
- ❑ Develop FPOs to act as knowledge centers, e.g., display price transparency systems educate farmers about various market rates other than APMCs but also registered procurement agencies including Agri startups and large-scale processing centers (which FPO's to prioritize).
- ❑ Co-develop commodity specific digital platforms (e.g. shrimps, mangoes, bovine, milk products.) to connect directly with international buyers and ensure adherence to export requirements, awareness about SPS standards of importing markets. e.g. Spices Board launched 3 D virtual platform aimed at connecting India's spice exporters with buyers from around the world.
- ❑ Create brand Karnataka for fruits, vegetables and other products in global markets to improve product demand and provide opportunities for exports e.g. Thailand has created a global brand for Thai produce.
- ❑ Setup state of the art Post Harvest Management centers within 25kms of production (Incentivize private investment following ODOP schemes)to improve post-harvest processing from 1%-2% and reduce spillage form current levels of 25%-30%, improve the proportion of horticulture product meeting Grade-A criteria from current levels of 30%-45% and fetch better prices for farmers.
- ❑ Setup "Seed to sales" single window centers (similar to AP's Rythu Bharosa Kendras) with the name "Farmers Welfare Centers(FWCs)" in every GP by using staff and infrastructure of Department of Agriculture, Horticulture, Sericulture and AH & Fisheries, KVKs and Agricultural Universities (Sell pre-tested quality seeds, certified fertilizers and livestock feed, provide farm equipment and enable farmers to sell their produce at the prevailing minimum support price (MSP) via supporting systems of

e-cropping, geo-tagging, soil testing and consultancy regarding what crops to sow and quality and type of fertilizer to be used.

- ❑ To encourage the establishment and use of Pakhouse, Onion storage structures, Coconut storage units and processing units for scientifically sorting, storing and packing in a variety of containers as per requirement for internal marketing and exporting of products for better management after harvesting of horticultural crops.

6.5 ANIMAL HUSBANDRY

The Livestock sector plays vital role in development of rural economy of the State. In Karnataka majority of the population is dependent on agriculture and allied activities. As per the 20th Livestock Census, Karnataka has 3.03 crores of livestock and 5.95 crores of poultry population and its share in all India was 5.41% and 6.98% respectively. As per this census, number of Livestock population available per lakh population in the State is 81973. Districtwise information is furnished **Map 6.5**.

The share of Animal Husbandry in total Gross State Domestic Product (GSDP) of the state was 3.80%. During 2021-22, in Buffalos milk production, India ranks first in the world, similarly in Cow milk production India stands second rank. During 2021-22, Karnataka state stands 10th rank among the States. The production of milk in the state was 11.80 million metric tonnes during the year 2021-22.

Animal Health and Veterinary Services

The Department of Animal Husbandry and Veterinary services provide services through its institutional network. During 2021-22, the livestock and poultry are rendered health services through a network of 4214 Veterinary Institutions, comprising of 01 Super Speciality hospital, 4 Speciality Hospitals, 27 District Polyclinics, 665 Taluk/Hobli level Veterinary Hospitals, 2135 Hobli/Village Veterinary Dispensaries, 1206 Primary Veterinary Centers and 176 Mobile Veterinary Clinics. Further, 64 other Veterinary Institutions are also rendering services.

To provide health care to the animals and for improvement and development of breeds of animals, various programmes are being implemented during 2022-23. Schemes being implemented during 2022-23 and financial progress achieved up to 20th January 2023 to increase the growth in this sector are as mentioned below.

(Rs. in Crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Director Animal Husbandry & Veterinary Services	148.52	137.89	115.41
2.	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.74	0.56	0.49

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
3.	Institute of Animal Health and Veterinary Biologicals and Clinical Laboratories, Bangalore	23.56	23.06	18.96
4.	Assistance to Pinjarapole and Goshalas	39.11	29.16	26.87
5.	State Poultry Farms	3.56	3.44	2.59
6.	Karnataka Sheep and Wool Development Corporation Limited	17.12	14.58	11.93
7.	Animal Husbandry Statistics	3.50	3.25	2.55
8.	Establishment of Veterinary and Animal Sciences University	133.52	133.03	90.97
9.	Grants to Animal Husbandry Co - Operatives	2.50	1.88	1.88
10.	Incentive to Milk Producers	1170.00	1125.00	1112.48
11.	Construction of Veterinary Institutions Building under RIDF	10.86	10.79	10.79
12.	Education Extension and Research- KVAFSU, Bidar	36.00	27.00	27.00
13.	Establishment of Mega Dairy	60.00	55.00	5.00
14.	Executive Establishment	78.76	75.09	93.69
15.	Supply of Drugs, Chemicals & Equipments	54.39	48.62	56.20
16.	Maintenance of Buildings	22.25	15.39	6.57
17.	Strengthening of Extension Units	7.36	5.74	4.93
18.	Opening of Rural Veterinary Dispensaries and their Upgradation as Taluk Level Dispensaries	637.99	605.21	429.30
19.	CSS - Control of Animal Diseases	42.40	1.87	1.13
20.	CSS - Integrated Sample Survey for Estimation of Milk, Meat, Egg and Wool Products	7.19	6.22	5.15
21.	CSS - National Livestock Mission	14.43	0.00	0.00
	Total	2513.76	2322.78	2023.89

Source: Avalokana

An amount of Rs. 2513.76 crores is provided in the budget for 2022-23 of which, Rs. 2322.78 crores is released upto 20th January 2023. The expenditure incurred is Rs. 2023.89 crores. Out of the total allocation, the productive allocation is Rs. 1575.90 Cr. of which the expenditure incurred is Rs. 1310.69 crores (upto 20th, January 2023).

Achievements

Table 6.4: Livestock and Poultry Production

Item	Unit	2020-21	2021-22	2022-23 (up to Nov. 2022)
Milk	'000 Tones	10936	11796	8453
Meat *	Tones	364279	395528	300301
Wool	Tones	1052	862	486
Eggs	No. in crores	761.99	826.38	604.18

* Includes Poultry Meat.

The production of Milk and Meat during 2021-22 was 117.96 and 3.96 lakh tones respectively. The Wool production is 862 tones and 826.38 crores Eggs were produced. During 2022-23 (upto November 2022) 84.53 lakh tones of Milk, 3.00 lakh tones of Meat is produced and 604.18 crores eggs are produced.

(i) Performance under Artificial Insemination (AI) Programme

Artificial Insemination (AI) facility has been provided through 4234 institutions. Sperm stations are located at Bengaluru and Dharwad. During 2021-22, 8.17 lakhs calves were born, out of 34.37 lakhs cattles inseminated. During 2022-23 (up to November 2022), 5.27 lakhs calves are born, out of 22.27 lakhs cattles inseminated.

(ii) Assistance to States for Control of Animal Diseases (ASCAD)

Under this programme, financial assistance is provided for systematic control of livestock diseases of national importance. During 2022-23 (upto Nov-2022) Livestock vaccinated are as mentioned below:

- ❑ 64,49,701 of cattle, buffaloes, sheep and goat were vaccinated against Haemorrhagic Septicemia.
- ❑ Preventive vaccination against Enterotoxaemia (ET) was done for 1,71,45,607 sheep and goats.
- ❑ Vaccination against Blue tongue was done for 68,467 sheep and goats. 2,77,444 cattle, buffaloes, sheep and goat were vaccinated for Anthrax.
- ❑ As a part of surveillance work 63 brain samples from clinically suspected animals and 38 brain samples from slaughtered animals were collected and forwarded to the IAH & VB laboratory and ascertained that BSE is not present in our state.
- ❑ Under NADCP 3rd round of FMD vaccination is under progress. As on 22-12-2022, 71.54 lakh cattle & Buffaloes were vaccinated.
- ❑ Under NADCP-Brucellosis, 153792 female calves (cattle & buffaloes) were vaccinated.

iii) National Animal Disease Reporting System (NADRS)

This programme envisages periodical online reporting of outbreaks of diseases from the field veterinarians. All the 239 blocks and 30 districts and one centre at state level have

been provided with the hardware, software and internet facility. The state monitoring unit located in Bangalore consolidates the reports at state level and forwards to the state Govt and GOI. Rs. 5.00 lakh is allocated to implement this programme for 2022-23.

(iv) Establishment and Strengthening of Veterinary Hospitals and Dispensaries (ESVHD) – Pashu Sanjeevini-Mobile Veterinary Units

The Central Government has provided a grant of Rs.44.00 crore under the Livestock Health and Disease Control Program to provide mobile veterinary vehicles to Karnataka State to provide emergency veterinary services at the doorsteps of the farmers. 275 well-equipped mobile veterinary vehicles are in the state for 289.97 lakh cattle at the rate of one mobile veterinary vehicle for every one lakh cattle population.

(v) Feed and Fodder Development:

To mitigate the shortage of green fodder in the State livestock farms, fodder production, fodder seed production and training of farmers are being undertaken with the assistance of State disaster relief fund, RKVY Centrally sponsored scheme and Calamity Relief funds. During 2022-23 (up to November 2022), 65550 fodder seed minikits have been procured at a cost of Rs.2.40 crore, resulting in production of 491.63 lakh tonnes of green fodder. 1,27,500 lakhs Root slips were distributed in farms.

(vi) Permanent Pasture:

Area under Permanent pasture in the state is 8.72 lakhs hectares (as per Karnataka At Glance 2021-22). While livestock population is 2.86 crores as per 2019 census. The below mentioned 11 districts have lower per capita pasture land. Hence, in these districts high nutrition feed is to be encouraged by distributing the fodder seeds kits on priority basis.

Sl. No.	District	Total Cattle Population	Permanent Pasture (In hectares)	Per capita availability of pasture(ha)
1	Raichur	1298145	19816	0.015
2	Haveri	804735	12209	0.015
3	Yadgir	984714	11755	0.012
4	Bengaluru (Rural)	401590	3879	0.010
5	Dharwad	387402	3571	0.009
6	Belagavi	2853131	21360	0.007
7	Vijayapura	1295358	9575	0.007
8	Vijayanagara	1302662	6486	0.005
9	Gadag	779664	2598	0.003
10	Bagalkot	1463945	3429	0.002
11	Ballari	770780	389	0.001

The district wise area under pasture to the total geographical area of the district is furnished in **Map 6.6** and the districtwise per capita availability of pasture is furnished in **Appendix 6.6**.

(vii) Karnataka Sheep and Wool Development Corporation (KSWDCL):

Karnataka Sheep and Wool Development Corporation has established four sheep Breeding farms and one goat Breeding Farm in the state. Distributed 174 crossbreed/ Improved varieties of rams and bucks to shepherds for breeding purpose for the year 2022-23 (up to November 2022) through breeding farms. Sheep and Wool Producers Co-operative Societies affiliated to KSWDCL are being assisted financially to strengthen and for active functioning. During the year 2022-23 (upto Nov-2022) Rs. 85.00 lakhs provided for 17 Societies as one time grant of Rs. 5.00 lakhs each.

(viii) Piggery Development

In the State, there are 5 pig breeding stations, which are located in Hesaraghatta in Bengaluru Urban District, Kalasa in Chickmagluru District, Kudige in Kodagu District, Koila in Dakshina Kannada District and Bangarpet in Kolar District. Among other activities, these stations are engaged in production and distribution of pure breed piglets, training and extension services in modern pig rearing to the beneficiaries. Most of the unemployed educated youths and farmers are engaged in modern pig rearing as a result the lifestyle of the pig rearers is being improved by the production of good quality of pork. During the year 2021-22 Piggery rearing Amruth FPOs have been established in 05 districts viz., Mysuru, Mandya, Hassan, Tumkuru & Dharwad. 1935 piglets are distributed to pig rearing farmers as against the target of 2200 during 2022-23 (upto November 2022). On pig rearing 887 farmers are trained as against the target of 950.

(ix) Poultry Development

There are 07 poultry farms functioning under the Department of AH&VS for development of poultry in the State. The major developmental activities are breeding and rearing of Giriraja parent stock and supply of day old chicks to the farmers. During 2022-23 (up to the end November- 2022) 871 farmers were trained in poultry rearing and 246070 eggs and 104859 chicks were produced.

(x) Karnataka Milk Federation

The Karnataka Cooperative Milk Federation has 27 dairy processing plants with a capacity of 92.50 lakh liters/day. Organization has 44 milk chilling centers, 1941 B.M.C units and also 7 milk product dairies which manufacture 288 MT milk powder and different milk products every day. The Karnataka Milk Federation has 7 cattle feed plants which produces 70616 MT's of cattle feed and 550 MT's of Mineral mixture/month. These plants have secured quality mark certification for quality production and supply of cattle feed and mineral mixture to producers. At present 15210 primary dairy co-operative societies are functioning, under 16 district milk unions with 26.28 lakh farmers who are enrolled as members, out of which, 8.76 lakh farmers are active members.

Other Achievements

- ❑ Hundred **Government Goshalas** are being constructed by the State Government to preserve the weak, sick, orphan, animals, which farmers cannot rear out of which, twenty Goshalas have already been started in the State.

- ❑ **Punya Koti Dattu Yojana** has been started first in the country to conserve cattle in government and private goshalas. Through this online portal, public, organizations can adopt cattle and donate for their maintenance. So far 208 cattle have been adopted through online portal. An amount of Rs. 22.33 lakhs donations is collected for maintenance of the cattle.
- ❑ **Lumpy skin disease**, 99,34,776 cattle have been vaccinated as a precautionary measure against Lumpy skin disease. Rs 37.00 crore has been released by the government to compensate the dead calves, cattle and bulls.

CHALLENGES & WAY FORWARD

- ❑ For every 5000 livestock units, one veterinary institute is to be headed by a qualified veterinarian in rural areas is the pre requisite as per the recommendation of National Council of Agriculture.
- ❑ Area under permanent pasture in the state is 8.72 lakh hectares. While livestock population is 2.86 crores as per 2019 census. Eleven districts have lower per capita pasture land. Hence, in these districts high nutrition feed is to be encouraged by distributing the fodder seeds kits.
- ❑ Conservation and development of Indigenous Breeds of cattle like Krishna Valley, Amruthmahal, Khillar, Deoni and breeds of Sheep and Goat.
- ❑ Inadequate diagnostic facilities and lack of sufficient number of subject matter specialists.
- ❑ Lack of effective disposal of carcasses to check the spread of infectious agents.
- ❑ Lack of availability of bulls having high yield germ plasm of milk.
- ❑ Lack of availability of minimum supportive prices for animal produce.
- ❑ Lack of Insurance products for poultry sector.
- ❑ Geo-tagging and referencing for real-time monitoring, IT enabled initiatives to be included for monitoring and tracking of livestock.
- ❑ Ensure regular vaccination livestock programme, livestock ambulance service, wider coverage and bridge the gap of access of veterinary hospital, timely action and prevention of disease outbreak.
- ❑ Need for sheds to sheep/goat for their safety and protection especially for medium farmers, widows and distressed women and ST/SC beneficiaries.
- ❑ Organizing training on value added product preparation, livestock management and support for branding the product.
- ❑ For fodder security, there is urgent need for conserving natural pasture /Kaval/ village grass lands and open fodder banks at district level (Kalyana Karnataka) to be established.
- ❑ Consumption of milk is lower than ICMR recommended intake of 300 grams/per day and hence needs counselling (through Anganwadi workers) to increase milk consumption by the beneficiary households.

- ❑ Financing of Modern abattoirs and slaughter houses-meat processing industry.
- ❑ Preparedness for control of Avian Influenza / Equine Influenza.
- ❑ Special focus on low productivity by addressing the problem on animal reproduction, infertility, low fat and SNF etc.
- ❑ Providing effective delivery systems for adapting new and innovative technologies.

6.6 FISHERIES

Fisheries is an important sector in the state contributing fish production besides, source of foreign exchange earner. Fish being one of the sources of quality protein, use of fish as food helps in eradication of malnutrition among rural population. The vast marine, brackish water and inland freshwater resources are the source of fish production in the State. Karnataka is in 5th position in marine fish production and 7th position in inland fish production in the country during 2021-22. The total fish production during 2021-22, is 10.74 lakh metric tonnes. The share of fisheries in total GSDP of the state was 0.35%.

Karnataka State has 313.02 Km long coast line along with 27000 Sq. km continental shelf area, 5.83 lakh hectares of various inland water resources and has vast scope for fisheries development. The brackish water area of 8000 hectares also provides good scope for shrimp/fish culture. There are about 9.84 lakh fishermen involved in various fisheries activities in the state of which 3.31 lakh are in marine and 6.53 lakh are in inland.

Fish Production

Department has 23513 fishing boats including 4599 Mechanized boats, 10545 Motorised boats and 8369 traditional boats. The annual fish production in Karnataka has shown a considerable increase from 2.97 lakh metric tons in 2005-06 to 10.74 lakh metric tons in 2021-22 with an annual average growth rate of 10.33%. During the year 2022-23 (up to Nov. 2022) 5.52 lakh MTs. fish production was produced.

Fish seed production during the year 2021-22 was 7669.06 lakhs. During the year 2022-23 (up to Nov. 2022) 7320.50 lakhs fish seeds produced as against the target of 11251 lakhs.

Schemes being implemented during 2022-23 and financial progress achieved up to 20th, January 2023 to increase the growth in this sector are as mentioned below.

(Rs. in Crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Director of Fisheries	29.37	29.58	22.74
2.	Assistance for Development of Inland Fisheries	9.70	7.73	3.19
3.	Fish Seed Stocking in Reservoir	2.00	1.49	0.50
4.	Supply of Kerosine to Conventional Boats	1.73	1.73	1.30
5.	Supply of Fishery Requisite Kits	1.25	1.04	0.89

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
6.	Electricity used by Ice Plants	4.00	4.00	3.00
7.	Reimbursement of Differential Interest to Commercial Banks	0.50	0.38	0.38
8.	Renovation of Fishing Harbours, Landing Centres and Dredging works	35.00	19.02	16.93
9.	Construction of Fisheries Link Roads, Bridges and Jetties - with NABARD Assistance(RIDF)	2.00	0.48	0.00
10.	District and Other Establishments(Fisheries Dept)	32.20	28.24	31.09
11.	Construction & Maintenance of Fisheries Buildings & Facilities	4.81	3.62	0.90
12.	Assistance to Inland Fisheries Development	7.83	6.14	6.47
13.	Assistance for Construction of Fish Markets and Marketing of Fish	1.73	1.38	1.63
14.	Exhibitions and Training (Fisheries Dept)	1.34	1.08	1.00
15.	Vidyanidhi Scheme-Scholarship for Higher Education of Fishermen/ Fish Farmer's Children	39.72	0.00	0.00
16.	CSS - Fishermen Welfare	3.06	2.30	2.30
17.	CSS - Blue Revolution/Integrated Development and Management of Fisheries	62.80	48.12	42.83
18.	CSS - Fishermen Welfare	3.06	2.30	1.53
19.	CSS - Construction of Fishing Harbours	71.93	71.93	52.91
	Total	314.03	230.56	189.59

Source: Avalokana

An amount of Rs. 314.03 crores is provided in the budget for 2022-23 of which, Rs. 230.56 crores is released upto 20th, January 2023. The expenditure incurred is Rs. 189.59 crores. Out of the total allocation, the productive allocation is Rs. 254.82 Cr. of which the expenditure incurred is Rs. 137.41 crores (upto 20th, January 2023).

Achievements

(i) Supply of Kerosene to traditional boats

In Karnataka coast many traditional boats are involved in fishing activity and these boats have been installing outboard engines stage by stage and are able to go for fishing too far off from the seashore in short time and have been successful in profitable fisheries.

These 8030 motorised boats are being supplied with 300 litres kerosene per month per boat at Public Distribution System (PDS) rate. During 2022-23, an amount of Rs.129.75 lakh expenditure is incurred as against the allocation of Rs. 173 lakhs.

(ii) Assistance for Inland fisheries development

- (a) Under the scheme “Encouragement for inland fish culture” 2000 fish fingerlings will be stocked in an hectare effective water spread area through Fishermen Co-operative Societies at free of cost. 342 tanks covering an area of 9430 Ha. have been stocked with fish fingerlings at a cost of Rs. 282 lakhs.
- (b) Under the new scheme “Shrimp and brackish water in fin fish culture” Rs.74.62 lakh has been spent towards shrimp farming establishing cages by 273 beneficiaries.
- (c) Rs.200.00 lakh was allocated for upgrading the fish seed production farms in the budget speech.

(iii) Stocking of fish seed in reservoirs

There are 83 reservoirs in the State. The total water spread area of these reservoirs is 2.73 lakh hectares. It is very much essential to stock these reservoirs with fast growing species such as Catla, Rohu, Mrigal which will not be bred naturally.

(iv) Group Accident Insurance Scheme

Under this Scheme, an amount of Rs. 22.88 lakhs Insurance coverage has been provided for 78,983 registered fishermen.

(v) Supply of fishery requisite kits

885 beneficiaries are covered under the scheme with an expenditure of Rs. 88.51 lakhs during the year 2022-23 (up to November 2022).

(vi) Blue Revolution - Integrated Development and management of Fisheries:

Central Government has introduced a flagship programme called Pradhan Mantri Matsya Sampada Yojana- Integrated development and management of fisheries to bring about a significant growth in the fisheries sector in the next 5 years (2020-21 to 2024-25). All aspects of the fisheries sector are included in the scheme and the beneficiaries can take up components in culture, capture, value addition, marketing and infrastructure development. The beneficiaries can avail a financial assistance of 60% or 40% of the assigned unit cost if they belong to the SC/ST/women and General categories respectively. The assistance is shared by the state and central on a 40:60 basis. During the year 2022-23 an amount of Rs. 4811.39 lakhs has been spent (up to November 2022) as against the allocation of Rs. 6280.14 lakhs.

CHALLENGES & WAY FORWARD

- ❑ New candidate species like Pungasius, GIFT Tilapia and local varieties of carps are to be introduced for culture.
- ❑ Inadequate availability of inputs including fish seeds.

- ❑ High Cost of feed and non availability of feed locally is affecting the feed based aquaculture.
- ❑ Create major ship building infrastructure around Mangalore.
- ❑ Operationalize container handling facility at Mangalore port to divert in bound and out bound cargo from Chennai, Tuticorin and Kochi ports.
- ❑ Expand production linked incentive schemes worth 25 billion dollars to promote manufacturing and exports using hub and spoke model.
- ❑ Open sea cage culture to promote mariculture as an alternative to capture fishery.
- ❑ Implementation of “MISSION FINGERLINGS” to address the inadequate supply of quality fish seed.
- ❑ Strengthening Inland fish marketing infrastructure and cold chain.

6.7 FOOD SECURITY

Food, Civil Supplies and Consumer Affair Department is one of the major Government Departments involved in providing food security to the poor through Public Distribution System (PDS). The Department is implementing Public Distribution System through which it is distributing fixed quantity of food grains at subsidized rates to below poverty line to provide food security to eligible households and achieve hunger free state. Kerosene is being distributed at subsidized rates under PDS mainly for illumination purpose. Besides this, kerosene is also allotted to fishing boats. As per the guidelines of both Central and State Government AAY (Anthyodaya Anna Yojane), Priority Household (PHH) and Non Priority Household (NPHH) cards are issued to eligible households on a regular basis. Computerisation of PDS has been adopted by the State under which Aadhar details of every PDS beneficiary is linked to the ration card and data base of PDS beneficiary has been created.

Priority and Non Priority Household Ration Cards

Under NFSA the concept of BPL and APL has been replaced with the concept of “Priority households” and “Non-Priority households”. Under this Act the Central Government has specified percentage population coverage under priority household as 76.04 % in rural area and in 49.36% urban area.

Various Schemes implemented by the Food and Civil Supply and Consumer Affairs Department during 2022-23 and the progress achieved upto Jan 2023 is as detailed below.

(Rs. in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Director, Food and Civil Supplies	65.44	57.04	40.07
Payments under the Karnataka Guarantee of Services Act	0.50	0.00	0.00

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Karnataka State Food Commission	1.49	1.11	0.40
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	12.92	6.46	6.41
Subsidy for Food Grains Distribution for AAY and PHH beneficiaries under Annabhagya Scheme	2800.00	1765.53	1550.83
IT Initiative for Public Distribution System	2.50	1.20	0.46
Subsidy for Rice Distribution for NPHH beneficiaries under Annabhagya Scheme	10.00	0.00	0.00
Setting up of Consumer Clubs for Consumer Awareness	0.40	0.20	0.05
Consumer Welfare Activities	0.30	0.15	0.03
State Consumer Helpline	0.30	0.22	0.14
Consumer Fora	39.90	37.46	28.62
Controller of Legal Metrology and Director of Consumer Protection	24.78	23.12	18.81
Strengthening of Weights and Measures Infrastructure	1.00	0.88	0.52
CSS - Fortification of Rice & its Distribution in Public Distribution System	25.01	0.00	0.00
Total	2984.54	1893.37	1646.34

As against Rs. 2984.54 crores allocated for the year 2022-23 an amount of Rs. 1893.37 crores is released upto the end of Jan 2023. The expenditure incurred is 1646.34 crores. Out of the total allocation, the productive allocation is Rs. 2814.92 Cr. of which the expenditure incurred is Rs. 1558.25 crores (upto 20th, January 2023).

Achievements

- ❑ Under the National Food Security Act 2013, 10,90,851 Antyodaya Anna, 1,16,27,010 Priority Ration Cards and 24,74,037 Non-Priority Ration cards are in the State.
- ❑ All these ration cards and details of the card members are computerised and linked with Aadhar. 87.65% of ration cards and 94.8% of the members have completed the e-KYC.

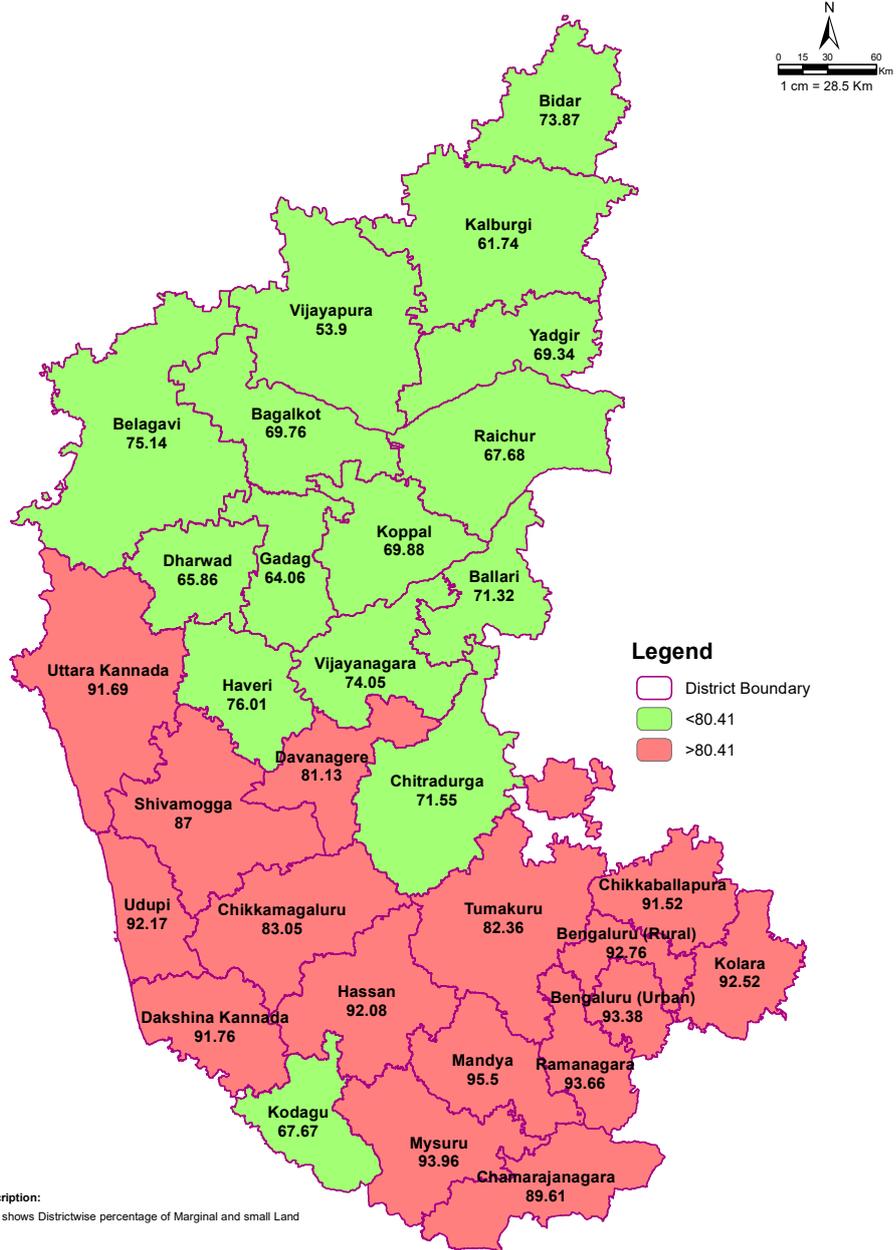
- ❑ 20,222 fair price shops are distributing ration through bio authentication.
- ❑ 32,677 ineligible AAY cards have been cancelled and converted to NPHH.
- ❑ Rs.3.82 crores fine has been levied for the ineligible ration card holders.
- ❑ To increase the income of the fair price shop owners the following initiatives / programmes namely, Common Service Centres, Retail sale of 5kg LPG cylinders, sale of non-PDS commodities are undertaken.
- ❑ One nation one ration card scheme is implemented under which any ration card holder of the state and other states are allowed to avail ration at any fair price shop in any part of the state.
- ❑ 12,19,949 sakala applications have been disposed.
- ❑ Against the black marketing of food grains FIR has been booked for 449 cases.

CHALLENGES AND WAY FORWARD

At present under Public Distribution System Rice, Ragi and Jowar are distributed to the AAY and PHH card holders. The other millets namely Bajra, Navane (Foxtail millet), Saave (Little millet), Haraka (Kodo millet), Sajje (pearl millet), Baragu (Proso Millet) are rich in dietary fibres. If these millets are also distributed to the AAY and PHH card holders along with rice it will improve health conditions of the beneficiaries.

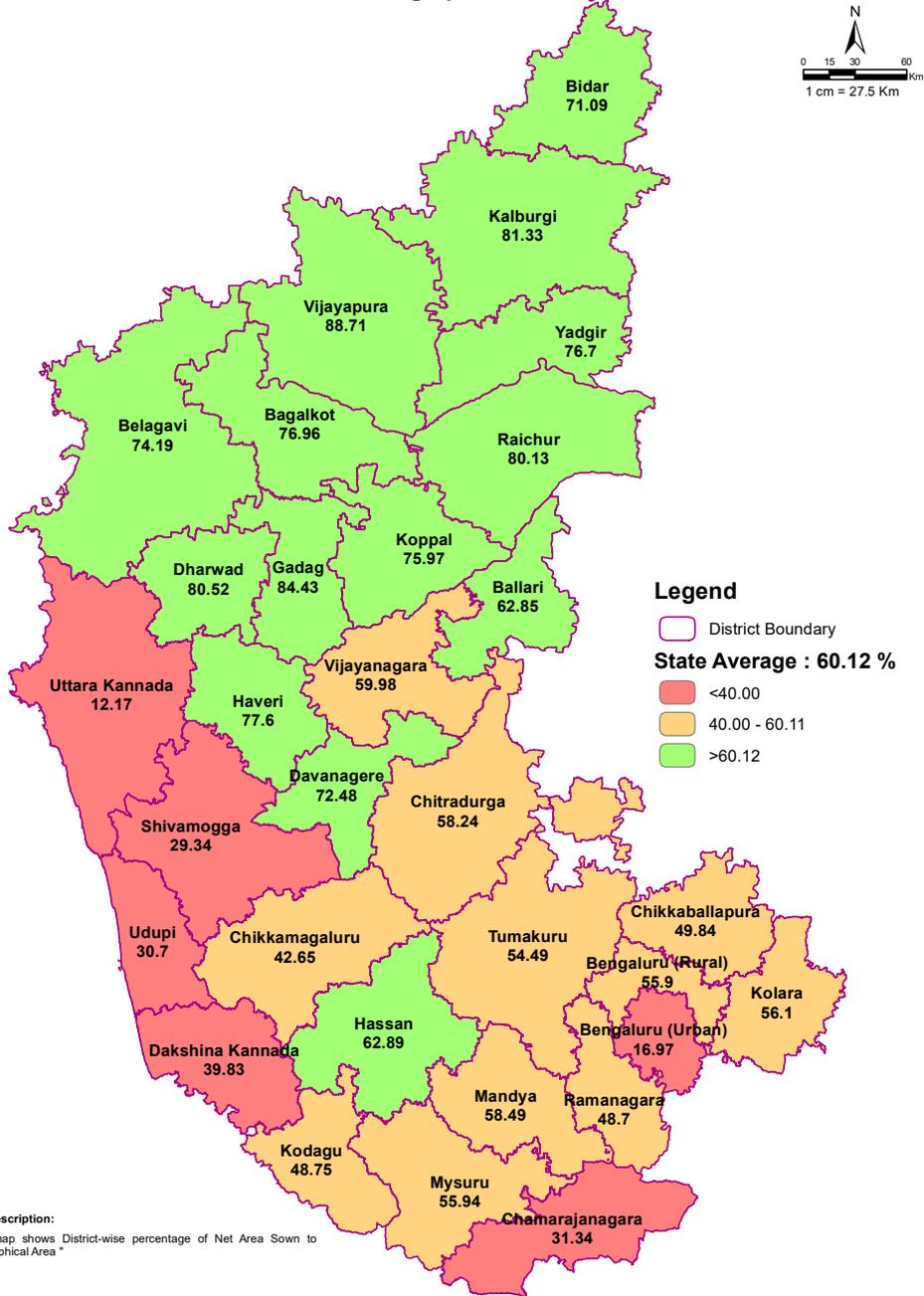
MAP 6.1

Districtwise percentage of Marginal and Small farmers greater than State average of 80.41% to Total farmers as per 2015-16 Agriculture Census



MAP 6.2

Districtwise percentage of Net area sown less than State average of 60.12% to total Geographical area

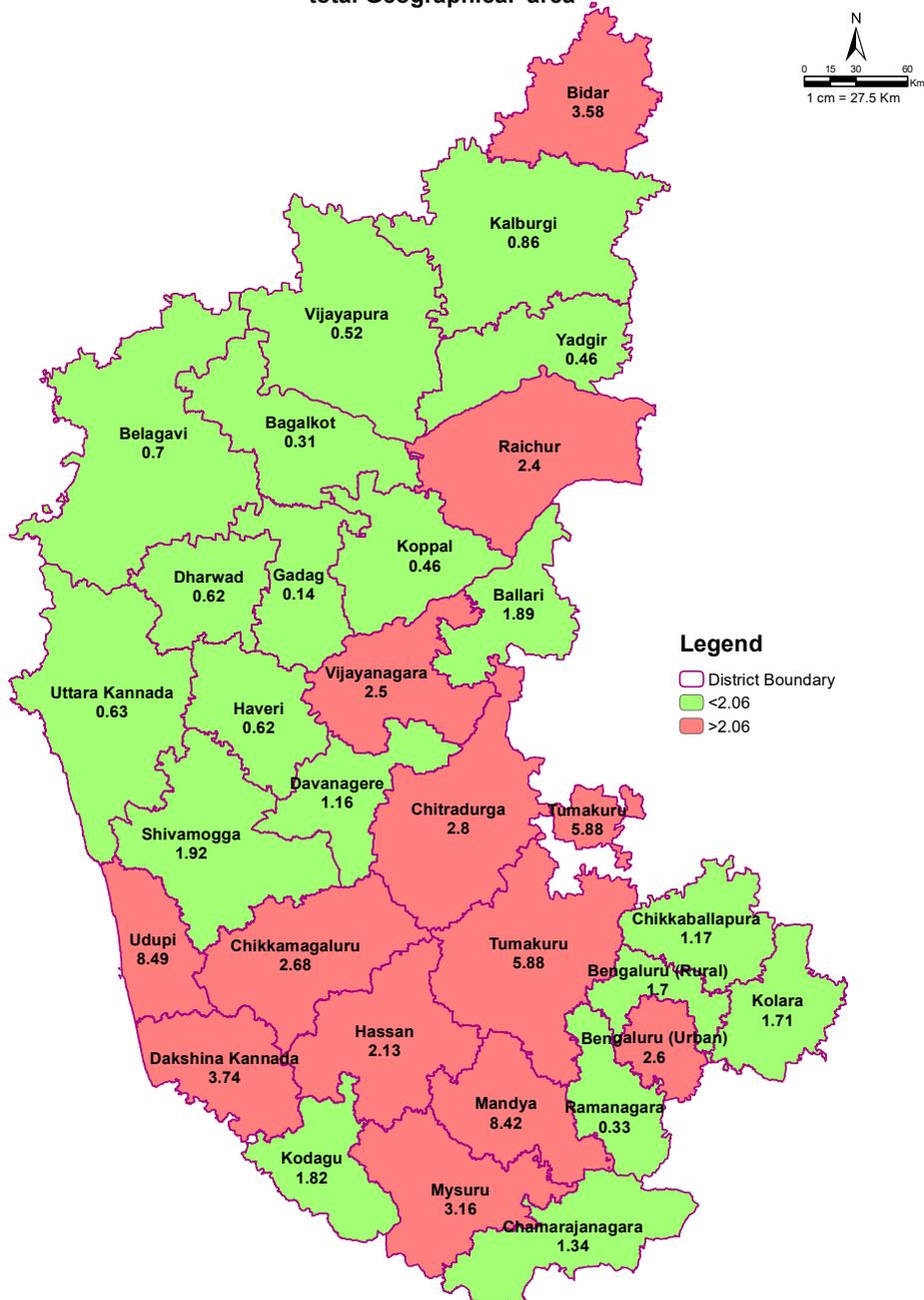


Map Description:
 "This map shows District-wise percentage of Net Area Sown to Geographical Area"

Generated from : K-GIS,KRSRAC

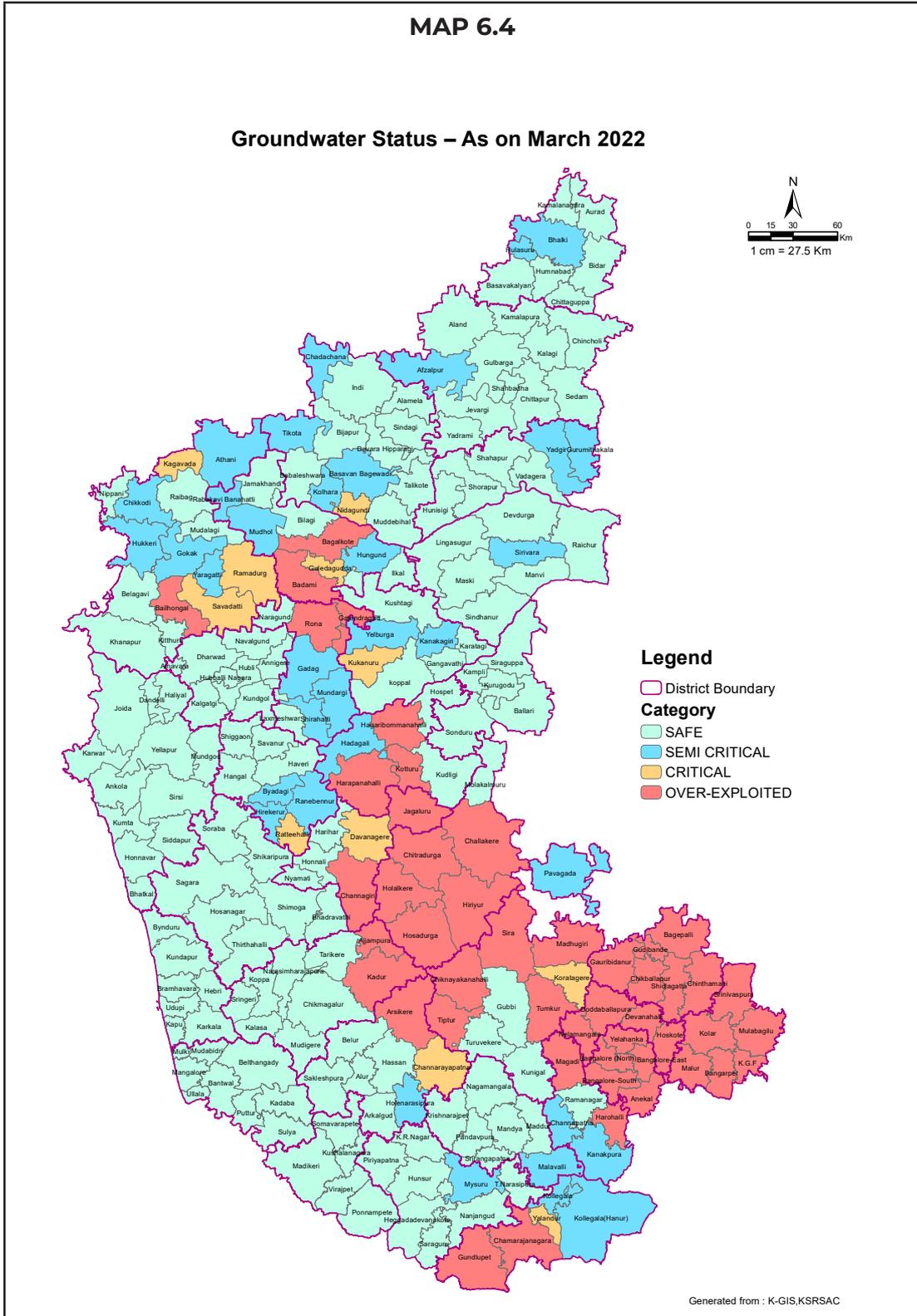
MAP 6.3

Districtwise percentage of Cultivable waste greater than State average of 2.06% to total Geographical area



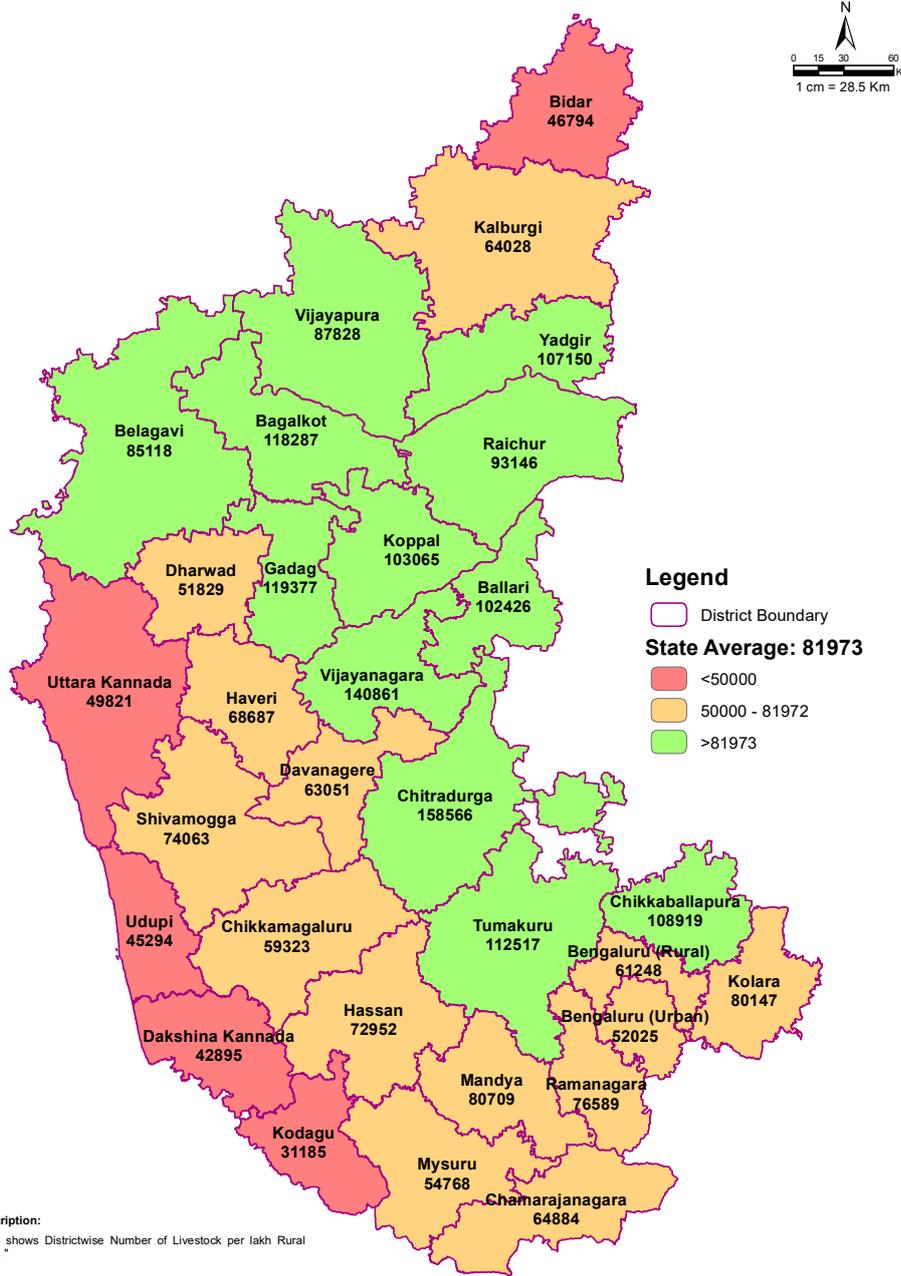
MAP 6.4

Groundwater Status – As on March 2022



MAP 6.5

Districtwise Livestock population less than State average of 81973, per lakh rural population – 2019 Livestock Census

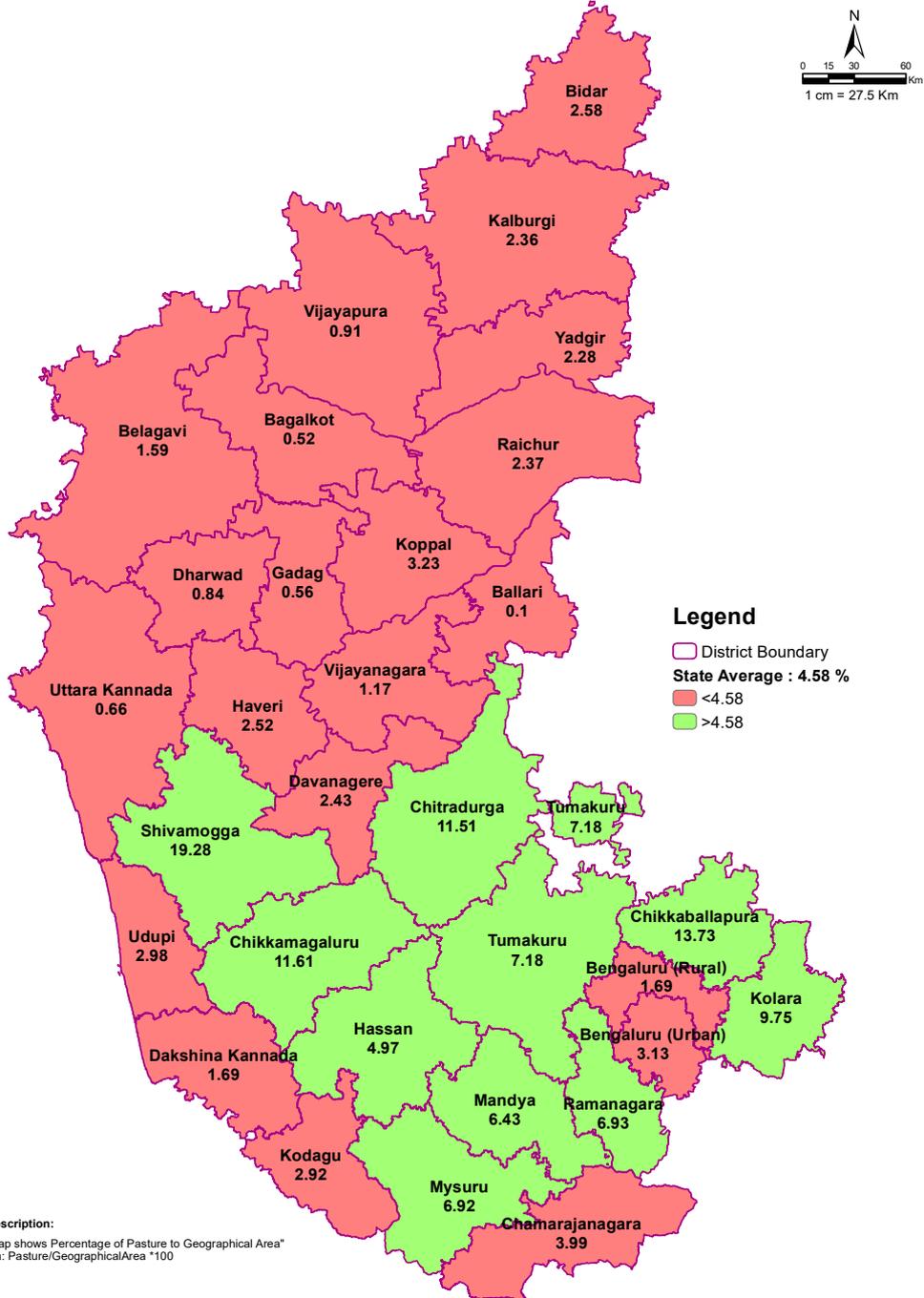


Map Description:
 "This map shows Districtwise Number of Livestock per lakh Rural Population."

Generated from : K-GIS,KRSRAC

MAP 6.6

Districtwise percentage of Permanent Pasture area greater than State average of 4.58% to total Geographical area



APPENDIX 6.1
LAND UTILIZATION 2020-21
(Area in Hectares)

Sl. no	District	Geo-graphical Area	Forest	% of Forest Area to Geo Graphical Area	Non Agricultural uses	% of Non Agricultural uses to Geo Graphical Area	Barren & Uncultivable Land	% of Barren & Uncultivable Land to Geo Graphical Area	Cultivable waste	% of Cultivable waste to Geo Graphical Area	Permanent Pasture	% of Permanent Pasture to Geo Graphical Area	Trees & Groves	% of Trees & Groves to Geo Graphical Area	Fallow Land	% of Fallow Land to Geo Graphical Area	Net area sown	% of Net area sown to Geo Graphical Area	% Land utilization to Geo-graphical Area
1	Belagavi	1344382	190424	14.2	70791	5.3	32309	2.4	9465	0.7	21360	1.59	2306	0.2	20364	1.5	997363	74.2	100
2	Bagalkot	658877	81126	12.3	29853	4.5	23810	3.6	2035	0.3	3429	0.52	274	0.0	11277	1.7	507073	77.0	100
3	Vijayapura	1053471	1977	0.2	36535	3.5	29059	2.8	5502	0.5	9575	0.91	1318	0.1	35005	3.3	934500	88.7	100
4	Kalburgi	1094120	35316	3.2	41511	3.8	35113	3.2	9417	0.9	25855	2.36	1131	0.1	55980	5.1	889797	81.3	100
5	Bidar	541765	27707	5.1	25374	4.7	19127	3.5	19381	3.6	13964	2.58	10933	2.0	40143	7.4	385136	71.1	100
6	Raichur	835843	18167	2.2	20768	2.5	20084	2.4	20084	2.4	19816	2.37	6409	0.8	60778	7.3	669737	80.1	100
7	Koppal	552495	29451	5.3	50383	9.1	23635	4.3	2568	0.5	17842	3.23	210	0.0	8659	1.6	419747	76.0	100
8	Gadag	465715	32614	7.0	11368	2.4	12024	2.6	640	0.1	2598	0.56	356	0.1	12922	2.8	393193	84.4	100
9	Dharwad	427329	35235	8.2	25861	6.1	3985	0.9	2669	0.6	3571	0.84	188	0.0	11755	2.8	344065	80.5	100
10	Uttara Kannada	1024679	813595	79.4	34713	3.4	16196	1.6	6450	0.6	6730	0.66	1601	0.2	20739	2.0	124655	12.2	100
11	Haveri	485156	47454	9.8	33515	6.9	5793	1.2	2989	0.6	12209	2.52	2295	0.5	4422	0.9	376479	77.6	100
12	Baleari	400043	31885	8.0	48594	12.1	29567	7.4	7569	1.9	389	0.1	517	0.1	30099	7.5	251423	62.8	100
13	Chitradurga	770702	73719	9.6	55506	7.2	25403	3.3	21612	2.8	88740	11.51	11328	1.5	45509	5.9	448885	58.2	100
14	Davanagere	454573	67688	14.9	28742	6.3	6340	1.4	5254	1.2	11025	2.43	3773	0.8	2259	0.5	329492	72.5	100
15	Shivamogga	847784	276855	32.7	88708	10.5	13312	1.6	16311	1.9	163463	19.28	28668	3.2	13561	1.6	248706	29.3	100
16	Udupi	356446	100102	28.1	43708	12.3	11464	3.2	30258	8.5	10618	2.98	38566	10.8	12297	3.4	109433	30.7	100
17	Chikkamagaluru	722075	202028	28.0	43638	6.0	28322	3.9	19322	2.7	83837	11.61	19513	2.7	17430	2.4	307985	42.7	100
18	Tumakuru	1064755	45177	4.2	90416	8.5	67539	6.3	62642	5.9	76453	7.18	21957	2.1	120398	11.3	580173	54.5	100
19	Kolar	374966	20620	5.5	49500	13.2	28870	7.7	6397	1.7	36575	9.75	7009	1.9	15626	4.2	210369	56.1	100
20	Bengaluru (Urban)	217410	5055	2.3	125426	57.7	5778	2.7	5645	2.6	6806	3.13	4615	2.1	27190	12.5	36895	17.0	100
21	Bengaluru (Rural)	229519	11322	4.9	47082	20.5	11124	4.8	3898	1.7	3879	1.69	589	0.3	23316	10.2	128309	55.9	100
22	Mandya	498244	24765	5.0	64762	13.0	21519	4.3	41955	8.4	32049	6.43	3887	0.8	17878	3.6	291429	58.5	100
23	Hassan	662602	58775	8.9	80679	12.2	30365	4.6	14142	2.1	32943	4.97	6963	1.1	22033	3.3	416702	62.9	100
24	Dakshina Kannada	477381	128476	26.9	77355	16.2	35886	7.5	17860	3.7	8069	1.69	14612	3.1	4988	1.0	190135	39.8	100
25	Kodagu	410775	134597	32.8	24299	5.9	24250	5.9	7458	1.8	12009	2.92	3011	0.7	4889	1.2	200262	48.8	100
26	Mysuru	676382	62851	9.3	75279	11.1	47871	7.1	21407	3.2	46808	6.92	6591	1.0	37223	5.5	378352	55.9	100
27	Chamarajanagara	569901	275610	48.4	24646	4.3	21434	3.8	7637	1.3	22750	3.99	4741	0.8	34460	6.0	178623	31.3	100
28	Chikkaballapura	404501	49704	12.3	32743	8.1	34302	8.5	4743	1.2	55550	13.73	6482	1.6	19361	4.8	201616	49.8	100
29	Ramanagara	355912	69946	19.7	29675	8.3	24339	6.8	1178	0.3	24662	6.93	2288	0.6	30487	8.6	173337	48.7	100
30	Yadgir	516088	33773	6.5	31333	6.1	27788	5.4	2385	0.5	11755	2.28	772	0.1	12447	2.4	395835	76.7	100
31	Vijayanagara	556177	87362	15.7	73036	13.1	26484	4.8	13910	2.5	6486	1.17	1166	0.2	14139	2.5	333594	60.0	100
	State total	19050068	3073376	16.1	1515799	8.0	743092	3.9	392783	2.1	871815	4.58	212269	1.1	787634	4.1	11453300	60.1	100

APPENDIX 6.2

The final estimates of Area and Yield details of 2020-21 under Major crops in 15 districts is as follows: (Area in Ha. & Yield in Kgs/Ha.)

CROP: PADDY				CROP:JOWAR			
SL. NO	DISTRICT	AREA	YIELD	SL. NO	DISTRICT	AREA	YIELD
1	UTTARA KANNADA	47960	3222	1	VIJAYAPURA	51493	730
2	HAVERI	44265	3437	2	GADAG	56660	740
3	HASSAN	40395	3753	3	DHARWAD	44097	798
4	KALBURGI	15650	3942	4	HAVERI	79366	908
5	KODAGU	21769	3963	5	KOPPAL	28830	908
6	BELAGAVI	61969	4115	6	BIDAR	39544	1025
7	SHIVAMOGGA	90017	4166	7	YADGIR	21716	1148
8	UDUPI	41001	4304	8	KALBURGI	80115	1262
9	YADGIR	146043	4505	9	CHITRADURGA	9220	1313
10	MYSURU	88869	4530	10	BELAGAVI	158496	1321
11	MANDYA	73957	4725	11	RAICHUR	52629	1324
12	RAICHUR	353280	4891	12	CHAMARAJANAGAR	10370	1354
13	DAVANAGERE	128626	5284	13	BAGALKOTE	62947	1448
14	KOPPAL	104004	5737	14	TUMAKURU	10095	1923
15	BALLARI	182103	6074	15	BALLARI	25867	2732
	STATE TOTAL	1514291	4766		STATE TOTAL	764844	1206
CROP: RAGI				CROP: MAIZE			
SL. NO	DISTRICT	AREA	YIELD	SL. NO	DISTRICT	AREA	YIELD
1	HASSAN	78463	1065	1	GADAG	92185	2195
2	CHIKMAGALUR	51830	1229	2	KOPPAL	95278	2979
3	BELAGAVI	1740	1330	3	DHARWAD	65408	3242
4	DAVANAGERE	12386	1375	4	HAVERI	227617	3350
5	BALLARI	24051	1550	5	VIJAYAPURA	80703	3429
6	CHITRADURGA	49893	1572	6	CHICKBALLAPUR	56280	3730
7	TUMAKURU	165595	1631	7	CHAMARAJANAGAR	38822	3740
8	MANDYA	72918	1639	8	DAVANAGERE	142145	3775
9	MYSURU	77543	1647	9	HASSAN	124959	3811
10	CHAMARAJANAGAR	9187	1784	10	MYSURU	50615	3868
11	BENGALURU - R	57135	2198	11	CHITRADURGA	116954	3922
12	KOLAR	66738	2208	12	BALLARI	194495	3942
13	RAMANAGARAM	69420	2234	13	SHIVAMOGGA	66879	4317
14	CHICKBALLAPUR	44020	2418	14	BAGALKOTE	80915	4328
15	BENGALURU URBAN	17729	2442	15	BELAGAVI	230742	4353
	STATE TOTAL	800676	1745		STATE TOTAL	1762258	3689

CROP: WHEAT				CROP:TUR			
SL.NO	DISTRICT	AREA	YIELD	SL.NO	DISTRICT	AREA	YIELD
1	KOPPAL	1238	499	1	TUMAKURU	14345	404
2	HAVERI	390	504	2	BELAGAVI	14747	423
3	DHARWAD	22766	561	3	VIJAYAPURA	524850	433
4	RAICHUR	142	625	4	KOPPAL	34588	508
5	GADAG	16603	671	5	MYSURU	3355	606
6	VIJAYAPURA	46410	911	6	CHITRADURGA	4983	651
7	YADGIR	206	962	7	KOLAR	1258	658
8	BALLARI	115	1025	8	RAICHUR	156218	708
9	BIDAR	8223	1126	9	CHICKBALLAPUR	3548	717
10	DAVANAGERE	193	1292	10	RAMANAGARAM	1780	722
11	CHAMARAJANAGAR	25	1292	11	BALLARI	14185	747
12	CHITRADURGA	379	1533	12	BIDAR	142503	774
13	BELAGAVI	65420	1552	13	YADGIR	95652	829
14	KALBURGI	13081	1871	14	BAGALKOTE	53033	877
15	BAGALKOTE	32048	2001	15	KALBURGI	593699	1070
	STATE TOTAL	207290	1292		STATE TOTAL	1664122	759
CROP: BENGAL GRAM				CROP: GROUNDNUT			
SL.NO	DISTRICT	AREA	YIELD	SL.NO	DISTRICT	AREA	YIELD
1	GADAG	124943	444	1	GADAG	56546	603
2	KOPPAL	63753	469	2	VIJAYAPURA	32437	763
3	DAVANAGERE	6758	476	3	TUMAKURU	87926	808
4	DHARWAD	102785	524	4	CHITRADURGA	171071	849
5	HAVERI	3726	588	5	RAICHUR	15059	907
6	BIDAR	68944	616	6	KOPPAL	44918	952
7	VIJAYAPURA	58265	616	7	CHICKBALLAPUR	36388	987
8	CHITRADURGA	37100	652	8	DHARWAD	31731	1005
9	RAICHUR	35822	654	9	BELAGAVI	34407	1102
10	BALLARI	14351	710	10	KOLAR	11782	1139
11	BELAGAVI	113535	729	11	HAVERI	34131	1176
12	CHAMARAJANAGAR	2991	776	12	BALLARI	75665	1333
13	CHIKMAGALUR	6878	827	13	BAGALKOTE	47639	1378
14	BAGALKOTE	47301	873	14	DAVANAGERE	12778	1380
15	KALBURGI	36052	1083	15	YADGIR	23449	1406
	STATE TOTAL	727758	625		STATE TOTAL	734620	1000

CROP: SUNFLOWER

Sl. No.	District	Area	Yield
1	Gadag	21017	483
2	Dharwad	4493	498
3	Kalburgi	5138	656
4	Koppal	12297	812
5	Raichur	7776	914
6	Chitradurga	1664	917
7	Yadgir	675	918
8	Vijayapura	7467	928
9	Belagavi	17562	931
10	Bagalkote	20683	981
11	Chamarajanagar	5487	1035
12	Ballari	6354	1078
13	Davanagere	796	1196
14	Haveri	9337	1435
15	Shivamogga	1522	2777
	State Total	123330	895

APPENDIX 6.3

District wise percentage of Cultivable waste to Geo-graphical Area (Area in Hectares)

Si. No	District	Geo-graphical Area	Cultivable waste	% of Cultivable waste to Geo Graphical Area
1	Udupi	356446	30258	8.49
2	Mandya	498244	41955	8.42
3	Tumakuru	1064755	62642	5.88
4	Dakshina Kannada	477381	17860	3.74
5	Bidar	541765	19381	3.58
6	Mysuru	676382	21407	3.16
7	Chitradurga	770702	21612	2.80
8	Chikkamagaluru	722075	19322	2.68
9	Bengaluru (Urban)	217410	5645	2.60
10	Vijayanagara	556177	13910	2.50
11	Raichur	835843	20084	2.40
12	Hassan	662602	14142	2.13
13	Shivamogga	847784	16311	1.92
14	Ballari	400043	7569	1.89
15	Kodagu	410775	7458	1.82
16	Kolar	374966	6397	1.71
17	Bengaluru (Rural)	229519	3898	1.70
18	Chamarajanagara	569901	7637	1.34
19	Chikkaballapura	404501	4743	1.17
20	Davanagere	454573	5254	1.16
21	Kalburgi	1094120	9417	0.86
22	Belagavi	1344382	9465	0.70
23	Uttara Kannada	1024679	6450	0.63
24	Dharwad	427329	2669	0.62
25	Haveri	485156	2989	0.62
26	Vijayapura	1053471	5502	0.52
27	Koppal	552495	2568	0.46
28	Yadgir	516088	2385	0.46
29	Ramanagara	355912	1178	0.33
30	Bagalkot	658877	2035	0.31
31	Gadag	465715	640	0.14
State total		19050068	392783	2.06

APPENDIX 6.4

District wise percentage of Area to be brought under Integrated farming and multiple cropping
(Area in Hectares)

Sl. No.	District	Net area cultivated	Area cultivated More than Once	Potential area for integrated farming and multi cropping	Percentage of area for integrated farming to the total net area
1	2	3	4	5	6
1	Dakshina Kannada	190135	5500	184635	97.11
2	Ramanagara	173337	8883	164454	94.88
3	Bengaluru (Rural)	128309	8170	120139	93.63
4	Chikkaballapura	201616	24432	177184	87.88
5	Chamarajanagara	178623	24115	154508	86.50
6	Tumakuru	580173	84935	495238	85.36
7	Kolara	210369	33776	176593	83.94
8	Vijayapura	934500	155628	778872	83.35
9	Kalburgi	889797	164113	725684	81.56
10	Mandya	291429	65474	225955	77.53
11	Vijayanagara	333594	75249	258345	77.44
12	Yadgir	395835	95456	300379	75.88
13	Bengaluru (Urban)	36895	9527	27368	74.18
14	Uttara Kannada	124655	32587	92068	73.86
15	Davanagere	329492	91577	237915	72.21
16	Ballari	251423	70496	180927	71.96
17	Raichur	669737	190835	478902	71.51
18	Chitradurga	448885	128752	320133	71.32
19	Hassan	416702	123530	293172	70.36
20	Shivamogga	248706	79439	169267	68.06
21	Bagalkot	507073	169229	337844	66.63
22	Koppal	419747	144076	275671	65.68
23	Chikkamagaluru	307985	114254	193731	62.90
24	Mysuru	378352	150350	228002	60.26
25	Udupi	109433	43681	65752	60.08
26	Bidar	385136	167673	217463	56.46
27	Haveri	376479	170094	206385	54.82
28	Belagavi	997363	470349	527014	52.84
29	Gadag	393193	210928	182265	46.36
30	Dharwad	344065	212287	131778	38.30
31	Kodagu	200262	130805	69457	34.68
	State Total	11453300	3456200	7997100	69.82

APPENDIX 6.5

District wise Potential area for Irrigation

(In hectares)

Si. no	District	Net area cultivated	Net Area Irrigated	Potential area for Irrigation
1	2	3	4	5
1	Kalburgi	889797	137222	752575
2	Vijayapura	934500	412762	521738
3	Belagavi	997363	649353	348010
4	Bidar	385136	39005	346131
5	Tumakuru	580173	243350	336823
6	Chitradurga	448885	121773	327112
7	Gadag	393193	100088	293105
8	Dharwad	344065	67802	276263
9	Hassan	416702	148611	268091
10	Raichur	669737	405847	263890
11	Koppal	419747	162470	257277
12	Vijayanagara	333594	87563	246031
13	Haveri	376479	139570	236909
14	Chikkamagaluru	307985	93612	214373
15	Mysuru	378352	170864	207488
16	Kodagu	200262	1967	198295
17	Yadgir	395835	229437	166398
18	Kolara	210369	55556	154813
19	Chikkaballapura	201616	51755	149861
20	Bagalkot	507073	361253	145820
21	Ramanagara	173337	41477	131860
22	Bengaluru (Rural)	128309	28798	99511
23	Shivamogga	248706	156666	92040
24	Davanagere	329492	240728	88764
25	Chamarajanagara	178623	98189	80434
26	Ballari	251423	177183	74240
27	Mandya	291429	219986	71443
28	Uttara Kannada	124655	61039	63616
29	Udupi	109433	52182	57251
30	Dakshina Kannada	190135	159026	31109
31	Bengaluru (Urban)	36895	15685	21210
State total		11453300	4930819	6522481

APPENDIX 6.6

District wise cattle population as per 2019 cattle census and land available under permanent Pasture (per capita availability of land)

Sl. No.	District	Total Cattle Population	Permanent Pasture (In hectares)	Per capita availability of pasture (ha)
1	2	3	5	8
1	Ballari	770780	389	0.001
2	Bagalkot	1463945	3429	0.002
3	Cadag	779664	2598	0.003
4	Vijayanagara	1302662	6486	0.005
5	Vijayapura	1295358	9575	0.007
6	Belagavi	2853131	21360	0.007
7	Dharwad	387402	3571	0.009
8	Bengaluru (Rural)	401590	3879	0.010
9	Yadgir	984714	11755	0.012
10	Haveri	804735	12209	0.015
11	Raichur	1298145	19816	0.015
12	Uttara Kannada	429497	6730	0.016
13	Koppal	1092825	17842	0.016
14	Davanagere	647493	11025	0.017
15	Bengaluru (Urban)	310366	6806	0.022
16	Bidar	567946	13964	0.025
17	Kalburgi	1017343	25855	0.025
18	Mandya	1172992	32049	0.027
19	Dakshina Kannada	284905	8069	0.028
20	Tumakuru	2291232	76453	0.033
21	Hassan	984601	32943	0.033
22	Udupi	260291	10618	0.041
23	Ramanagara	585264	24662	0.042
24	Chamarajanagara	539233	22750	0.042
25	Chitradurga	2076052	88740	0.043
26	Kolar	813767	36575	0.045
27	Mysuru	925949	46808	0.051
28	Chikkaballapura	1041797	55550	0.053
29	Kodagu	85173	12009	0.141
30	Chikkamagaluru	463371	83837	0.181
31	Shivamogga	741461	163463	0.220
State total		28673684	871815	0.03

7.1 FOREST

7.1.1 Forest cover

The state has set a goal of greening the vacant waste lands, institutional waste lands, urban spaces, agricultural waste lands, sopping betta lands, rivet catchment areas, and Assessed waste lands without tree growth and tank foreshore areas with appropriate tree species through participatory approach involving local bodies and Village forest committees to achieve the target of 33% of green cover by 2030. State has formulated afforestation programs like Krishi Protsaha planting, Trees outside forests, Nagarvanas in addition to Central schemes.

Performance of Karnataka VS India for SDG15 - Life on Land

Indicators/States	Arunachal Pradesh	MP	Odisha	Karnataka	India	Target
Forest cover as a Percentage of total geographical area	79.63	25.14	33.15	20.11	21.67	Null
Tree cover as a Percentage of total geographical area	1.01	2.71	2.98	3.26	2.89	Null
Forest cover + Tree cover of total geographical area	80.64	27.85	36.13	23.37	24.56	33
Number of cases under Wildlife Protection Act (1972) per million hectares of protected area	4	20	4	2	15	0
Percentage increase in area of desertification	12.62	0.86	-0.33	0.14	1.98	0
Percentage of area covered under afforestation schemes to the total geographical area	Null	Null	2.46	0.32 (12)	0.51	2.74
Percentage of degraded land over total land area	11.74	19.17	38.32	27.48	27.77	5.46
Score (Rank)	93 (1)	84 (2)	83 (3)	67 (11)	66	100

Source : SDG India Index - 2020, NITI Aayog

It is estimated that around 25% of the Forest area is under various stages of degradation due to biotic and anthropogenic pressures (FSI report). Under the SDG goal it is envisaged to undertake regeneration works under different ecosystems to restore the original structure and functions. Some of the strategies are:

- Increase in forest tree cover in degraded area
- Increase in forest/vegetation cover in mountain area
- Restoration of water bodies

- ❑ Conservation of local wild life species.
- ❑ Restoration of red list of wild animals.
- ❑ Biodiversity conservation-access to benefit sharing agreements, recovery of RET species.
- ❑ Reduction in traded wildlife that was poached or illicitly trafficked-Alien species eradication.

Agro-forestry: Tree planting in all vacant private and farmlands that are unfit for productive agriculture; Promote dry land horticulture, mulberry; Soil and water conservation; Biodiversity conservation.

Forest: Restoration of disturbed forests and plantations; Increasing focus in farm forestry in order to reduce pressure on natural forest.

Forests are an integral part of natural resources and an integral part of environmental and ecological systems. The state's dense forests are located in the Western Ghats region. About 60% of the Western Ghats of the country are located in the state. In order to protect and develop bio-diversity, the state has formed 6,554 Bio-diversity management committees. Bio-diversity heritage sites (such as the 400-year-old tamarind grove at Nallur, Devanahalli taluk) have been developed to conserve and develop unique genetic diversities.

The vision of the forest department is to conserve, manage and develop forests and tree growth on a sustainable basis for the present and future generations. It envisages to achieve the goal to increase tree cover to one third of the geographical area of the State in consonance with the National Forest Policy, 1988. The Karnataka Forest Department is protecting its forests by implementation of laws and regulations pertaining to forest and wildlife.

The contribution of Forest and Loggings sector to the overall GSDP is 0.98 % at current prices (increased from 0.69% to 0.98%). Forest resources significantly contribute to the State's Gross Domestic Product (GSDP) by being a major source of timber, medicinal plants, Minor Forest Products, grazing, recreational activities, carbon sequestration, watershed provisions etc.,. Forest resources are under severe pressure due to rapid population growth and in this scenario, meeting developmental, livelihood, agricultural and industrial needs while conserving forests for productive and ecological services is a major challenge. The main factors responsible for the depletion of the forest resource base are:

- ❑ Diversion of forest areas for developmental activities.
- ❑ Encroachment of forest area, destruction of natural habitat, mining and quarrying, wildlife poaching, smuggling of timber, erosion of common property resources, excessive fuel wood collection, livestock grazing etc.,.

7.1.2 Area under forest

Karnataka is the seventh-largest state in the country, with a geographical area of 1,91,791 sq.km, accounts for 5.83% of the Geographical Area of the country. The state is endowed with a diverse climate, topography and soils, which have resulted in rich bio-diversity. The

diverse ecological niches support characteristic flora and fauna. The evergreen forests of the Western Ghats, which cover about 60% of the forest area of the state, are recognized as one of the 35 bio-diversity hotspots in the world and one of the four biodiversity hotspots in India. The detail of the classification of the total forest area in Karnataka is presented in **Table 7.1**.

Table 7.1: Details of classification of total Forest Area in Karnataka

Sl.No.	Classification	Area (in sq.km)	% of Geographical Area
1	Reserved Forest	30,817.88	16.07
2	Protected Forest	1,970.66	1.03
3	Village Forest	86.15	0.04
4	Private Forest	52.16	0.03
5	Notified forest u/s-4 of KFA 1963	2,321.21	1.21
6	Deemed Forest	3,301.86	1.72
7	Forest as per Statutory Provisions	1,728.14	0.90
8	Unclassified Forest	5,638.65**	2.93
Total		45916.71	23.93

Source: Additional Principal Chief Conservator of Forest, Working Plan

**The Reconciliation of Forest Area is under progress using GSFIS data.

7.1.3 Recorded Forest area within forest and non-forest areas (As per Annual Report of Karnataka Forest Department 2021-22)

The state has reported that the extent of the Recorded Forest Area (RFA) is 43,557.71 sq.km, which constitutes 22.71% of Geographical Area. The Reserved, Protected and unclassified forests account for 16.07%, 1.03% and 2.94% of the recorded forest area in the state respectively. However, as the digitized boundary of the recorded forest area in the state covers 43,557.71 sq.km. In Karnataka, during the period from 01.01.2021 to 31.12.2021, a total of 679.30 hectares of forest land was diverted for various non-forestry purposes under the Forest Conservation Act, 1980 (MoEF & CC, 2021-22). During 2021-22, total of 32,964.18 ha of plantations were raised in the state.

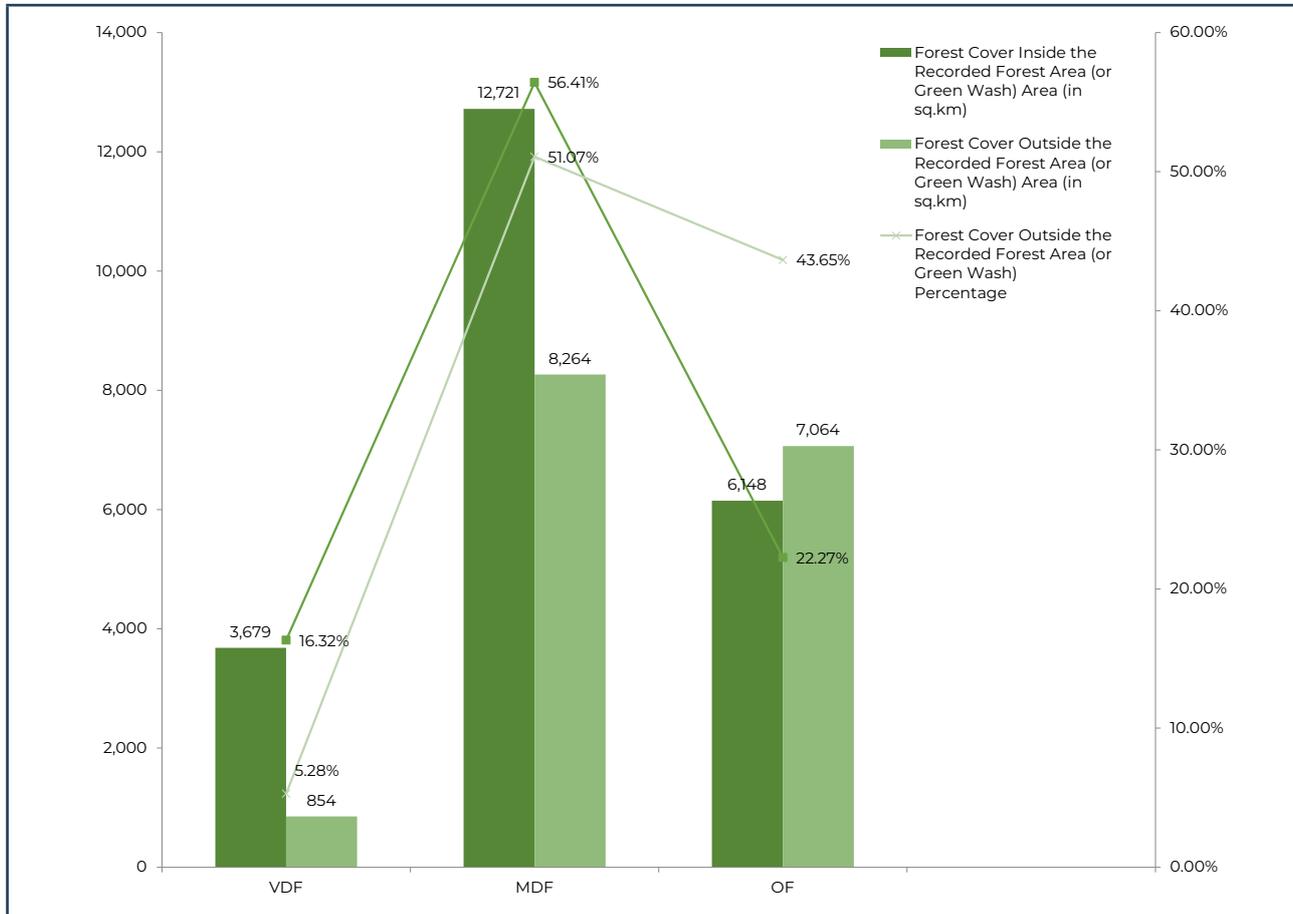
7.1.4 Forest Cover Inside and Outside Recorded Forest Area (or Green Wash)

As per the Indian State of Forest Report (ISFR)-2021, the analysis of forest cover inside and outside Recorded Forest Area (RFA) is presented in **Table 7.2** and **Figure 7.1**.

Table 7.2 : Forest Cover Inside and Outside Recorded Forest Area (or Green Wash) in Karnataka (in sq.km)

Forest Cover Inside the Recorded Forest Area (or Green Wash)				Forest Cover Outside the Recorded Forest Area (or Green Wash)			
VDF	MDF	OF	Total	VDF	MDF	OF	Total
3,679	12,721	6,148	22,548	854	8,264	7,064	16,182
16.32%	56.41%	22.27%		5.28%	51.07%	43.65%	

Source: India State of Forest Report (ISFR) -2021

Figure 7.1: Forest cover inside and outside RFA in Karnataka

7.1.5 Forest cover as per India State of Forest Report (ISFR) - 2021

The Forest Cover has been mapped into three density classes, viz., Very Dense Forest (VDF), Moderately Dense Forest (MDF) and Open Forest (OF). Scrub areas, though not part of the forest cover have also been mapped. The estimation of forest cover prepared by ISFR, classified on the basis of forest cover density, shows that the state has 4,533 sq.km of Very Dense Forest, 20,985 sq.km of Moderately Dense Forest and 13,212 sq.km of Open Forest.

Total Forest Cover in Karnataka is 20.19% constituting forest area of 38,729.99 sq.km. **Appendix 7.1** and **Table 7.3** shows that District-wise forest cover, Geographical area and forest cover according to the India State of Forest Report (ISFR)-2021.

Table 7.3 : Forest cover as per India State of Forest Report (ISFR)-20 (Area in sq.km)

Sl. No.	Forest Class	Year wise Forest cover				
		2013	2015	2017	2019	2021
Karnataka's Forest Cover						
1	Very Dense Forest + Mod. Dense Forest	21,956	21,844	24,946	25,549	25,518

Sl. No.	Forest Class	Year wise Forest cover				
		2013	2015	2017	2019	2021
2	Open Forest	14,238	14,577	12,604	13,026	13,212
	Total	36,194	36,421	37,550	38,575	38,730
3	India's Forest cover	6,97,898	7,01,673	7,08,273	7,12,249	7,13,789
4	Percentage forest cover of state vis-a vis India	5.18	5.19	5.30	5.41	5.42

Source: India State of Forest Report (ISFR)-2021

7.1.6 (A) Developmental Programs Afforestation

Afforestation works are being carried out from time to time. By the end of November 2022, 282.83 lakh saplings have been planted in an area of 47,077 hectares by carrying out afforestation works. Under agroforestry, 315.34 lakh saplings have been distributed to farmers and public for planting in their private lands.

Every year, the Karnataka State is promoting planting of 200 to 300 lakh seedlings on private lands through various schemes like Krishi Aranya Prothsaha Yojane (KAPY), MGNREGA, SMAF, etc., and thereby the tree cover outside forest has increased, as evident from the India State of Forest Report (ISFR) 2021 published by Forest Survey of India. There has been increase of Forest and Tree cover in the State as shown in **Table 7.4**.

However, the contribution of the Forest from indirect benefits far outweigh the tangible benefits seen from forest produce, viz. Timber, Firewood, Bamboo, Cane, Grass, Minor forest produce etc. The indirect benefits of the ecosystem services in the form of Biodiversity conservation, watershed functions in terms of control of soil erosion and for ensuring flow of rivers and supporting more than a crore local people dependent on the State's forest for fuel wood, fodder, Minor forest produce and other needs, apart from eco-tourism benefits need to be valued comprehensively, whereby the contribution of the forestry sector to the country and the globe could be better appreciated.

Table 7.4: Forest and Tree cover in the State

Year	Forest Cover (Area in Km ²)	Tree Cover (Area in Km ²)	Total Forest & Trees Cover (Km ²)	Growing Stock (million cum)			Remarks
				In recorded Forest area	In Trees Outside Forest	Total	
2015	36,449 (19.00%)	5,552 (2.89%)	41,973 (21.89%)	296.990	86.590	383.580	
2017	37,550 (19.58%) (+1101)	5,713 (2.98%) (+161)	43,263 (22.56%) (+1262)	327.660	89.585	417.245	+33.665

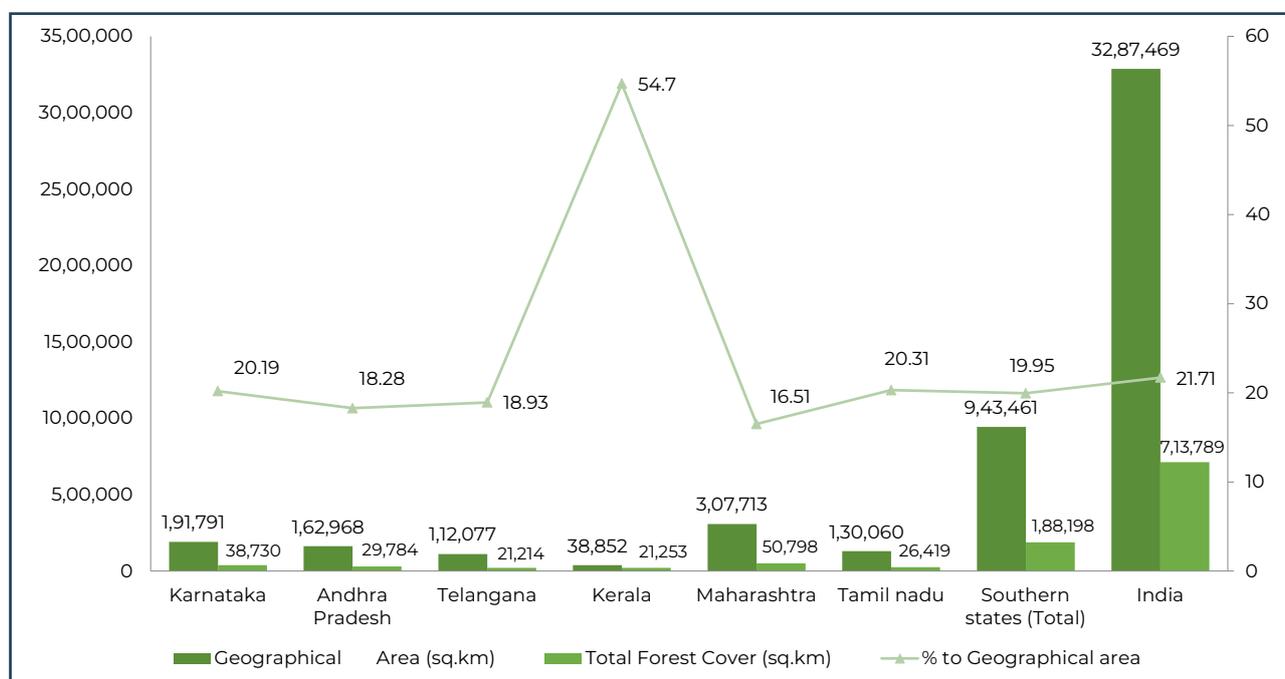
Year	Forest Cover (Area in Km ²)	Tree Cover (Area in Km ²)	Total Forest & Trees Cover (Km ²)	Growing Stock (million cum)			Remarks
				In recorded Forest area	In Trees Outside Forest	Total	
2019	38,575 (20.11%) (+1025)	6,257 (3.26%) (+544)	44,832 (23.37%) (+1569)	334.08 (87.26 cum/ha)	103.030 (7.05 cum/ha)	437.110	+19.865
2021	38,730 (20.19%) (+155)	7,494 (3.91%) (+1237)	46,224 (24.10%) (+1392)	302.14 (-31.94)	121.72 (+18.69)	423.86	-13.250

Source: Karnataka \$1trillion GDP Vision Working Group Recommendations

(B) Comparison with southern states

As per India State of Forest Report (ISFR)-2021, forest cover in Karnataka is 20.19% of the total geographical area of the state. In the southern states, Kerala has the highest proportion of forest cover, accounting for 54.70% of total area. The comparison statement with neighbouring states is presented in **Figure 7.2**.

Figure 7.2: Details of Geographical Area with Southern States



(C) Forest cover in different forest types

The forest vegetation is classified into seven types based on gradients of rainfall, length of the dry season and temperature etc., About 4.19 % of forests are wet evergreen, 4 % are semi-evergreen, 3.56 % are moist deciduous and 3.66 % are dry deciduous. Thorn forests form 3.09 % of the total, plantations form 3.26 %, and broad-leaved hill forests form 2.53 %.

(D) Forest and Tree cover

As per India State of Forest Report (ISFR)-2021, forest cover is 20.19% (38,730 sq.km) and the tree cover is 3.91% (7,494 sq.km) of the geographical area, totaling 24.10 % (46,224 sq.km). Tree Cover includes trees in all formation including scattered trees.

7.1.7 National Parks and Wildlife Sanctuaries

The forest of Karnataka supports a wide range of flora and fauna (bio-diversity) through a network of well-connected and protected wildlife sanctuaries and national parks. The state has 5 National parks and 40 Wildlife Sanctuaries (including 5 Tiger Reserves) covering an area of 10,827.41 sq.km. Apart from the National Parks and Sanctuaries, the state has 18 Conservation Reserves and 1 Community Reserve, comprising 304.71 sq.km.

7.1.8 Eco-Tourism Activities

(A) Information of visitors to National Parks/Wildlife Sanctuaries

1. Among the visitors to the sanctuaries, 99.97% are Indians and 0.03% are foreigners.
2. Some of the protected areas are experiencing high pressure from eco-tourism while others are underutilized. Therefore, to reduce the pressure on the protected areas like Bandipur, Nagarhole and Kudremukh, it is necessary that the less visited protected areas like BRT, Bhadra, Dandeli and some other protected areas be provided with better eco-tourism facilities infrastructure. Their potential may also be given more publicity. Once they become popular, they may also have more tourists. This will help in sensitizing the people and also creating awareness about wildlife conservation in the state.

(B) Death of wild animals

The State has 25% of the country's elephant population. As per the 2017 population estimation, there are 6,049 elephants in the state. The state has five Tiger Reserves. As per all India Tiger Estimation conducted during 2017. Karnataka's Tiger Population is estimated at 524 and Karnataka has the second highest tiger population in the country.

During 2022-23 upto end of November 2022, due to attack by wildlife's, 28 people were killed. Ex-gratia of Rs.7.50 lakh per person was paid to the victims, totaling Rs.210.00 lakh.

(C) Expenditure on wildlife development activities in National parks and wild life sanctuaries

Among the schemes of the Forest Department concerning wildlife and national parks, Mitigation Measures to mitigate Man-Animal Conflict incurred an expenditure of 99.97%, Project Tiger 99%, Integrated Development of Wildlife Habitats 100%, Project Elephant 99%, and national parks during 2021-22. In 2022-23 up to November 2022, Rs.11406.02 lakh has been spent on wildlife sanctuaries.

(D) Revenue Realized from Forestry

The sale of Timber and other forest produce in all the Government Timber Depots which forms a major source of revenue is disposed off by e-auction. The State has realized revenue to the tune of Rs.18,648.91 lakh during 2022-23 (upto November 2022) from the

marketing of forest products such as timber, firewood, sandalwood, bamboos, canes and other minor forest products. Details are given in the **Table 7.5**. Allocations and progress for the year 2022-23 as per Avalokana is as shown in **Appendix 7.2**.

Table 7.5 : Revenue Realized from Forest Produce-2022-23

Sl.No.	Forest Produce	Revenue Realized (Rs. in lakh)
1	Timber	9,545.10
2	Firewood and Charcoal	2,951.43
3	Bamboos	16.91
4	Receipts from Sandalwood	228.30
5	Minor Forest Produce	261.06
6	Other Sources of Revenue	5,646.11
Non-taxable Revenue of the Department		18,648.91
Forest Development Tax(FDT) Collections		886.85

Source: APCCF(FRM), Upto November-2022

7.1.9 Revenue and Expenditure

The Forest Resource Management (FRM) wing of Karnataka is primarily responsible for the management of forests from the point of production as well as overall protection. Revenue is realized by the sale of forest products such as timber, firewood, bamboo, sandalwood and minor forest products as well as revenue realized from sanctuaries and other miscellaneous revenue items. The expenditure includes the establishment cost as well as the cost of afforestation and other departmental programmes. The detail of Revenue and Expenditure of the last five years is as shown in **Table 7.6**.

Table 7.6 : Revenue and Expenditure from Forest Department (Rs.in crore)

Year	Revenue	Expenditure
2018-19	280.11	1536.22
2019-20	245.34	1759.78
2020-21	255.36	1774.63
2021-22	288.86	1313.19
2022-23*	203.95	1023.65

Source: Annual Reports of Karnataka Forest Department, * Upto November-2022

7.1.10 Future growth plan of the revenue from the sub-sector (next 5 and 10 years)

The Department has planned to promote Production Forestry of valuable hardwood species, which needs longer duration 30 to 50 years and more for the rotation of such trees to be realized.

There are more than a lakh ha. of mature teak plantations raised 50 to 100 years ago and many of such plantations, which are not situated in ecologically fragile areas or in steep slopes, are planned to be extracted to provide the valuable timber for construction etc, which would unlock the value and save precious foreign exchange, presently going for import of large volume of timber species. Projected Revenue realized from forest department for the year 2022-23 is Rs.300.00 crore and this revenue will be increased upto Rs.1000.00 crore in next ten years.

7.1.11 Key drivers to achieve the projected growth

1. Production Forestry of valuable hardwood species in the forest land @ 5000 Ha. per year.
2. Simplification and relaxation of existing regulations to promote agro-forestry with planting of short rotation species, like Silver Oak, Melia dubia, Acacia auriculiformis and other species, like Sandal, Neem, Teak and Red sanders etc.
3. Encouraging Wood based Industries, dependent on farm-forestry wood.

Key Achievements

- ❑ GoK already approved 2022 Sandalwood Promotion Policy, whereby Sandal trees could be extracted as per need and traded in open market.
- ❑ Policy changes are required to remove blanket ban on green-felling. Instead scientific production forestry need to be practiced on @ 5 to 10 % of the forest land in the State, endowed with suitable edaphic and climatic conditions.
- ❑ GoK is already requested to amend the Rules related to sawmill definition and excluding Wood Based Industries, like Plywood, MDF, Particle Board units to be excluded from Sawmill definition and permitting then on a simpler framework, in line with 2016 & 2017 GoI Regulations.
- ❑ The area of sandalwood plantation and naturally grown sandalwood trees is protected and maintained through the installation of chain link mesh, watch and ward, soil working, cultural operations and other protective measures.
- ❑ Plantation maintenance work has been done in an area of about 4000 km of national highway, 21,000 km of state highway and 38,000 km of district roads under various afforestation programmes.
- ❑ With more emphasis on social forestry, indigenous species of trees will be extensively planted on government lands around small hills, mangroves and lakes. In this regard, it has been announced to implement the “Green Karnataka” program to grow a tree for every house, a forest for a village, a small forest for each taluk and one forest for a district, with the active involvement of school and college students and environmental organizations.
- ❑ During road widening on state and national highways, trees across the roads were felled. For planting saplings in place of these trees, the utility companies like K-Ship, KPTCL, KRDC and other utility companies has to deposit the prescribed amount to the account number 0406-01-800-0-08-000.

- ❑ The Devarakadu Forests are very unique and significant from religious and ecological points of view. This scheme has been introduced to conserve the valuable eco-systems in their pristine conditions as sacred groves, allowing them to have their natural evolutionary process continue without any disturbance. This scheme has been started to construct and develop one Daivivana in every district.
- ❑ Smruthivana is honour of Sri Sri Sri.Shivakumara Swamiji at Tumakuru and Pejawara Sri.Vishwasha Theertha Shripada at Udupi will be constructed with an expenditure of Rs.2.00 crore each.

WAY FORWARD

- ❑ Set-up of Wood based Industries dependent on farm-forestry wood to spur the demand in the local market, provide employment opportunities and increase revenue opportunities to the farmers.
- ❑ Increase provision of eco-tourism facilities and publicity to less visited protected areas like BRT, Bhadra, Dandeli, etc., while continue the strengthening of places like Nagarhole, Bandipur, to develop eco-tourism activities. Eco-Tourism activities should be scaled up to unlock the big source of employment opportunities.
- ❑ Simplify regulatory frameworks to promote agro-forestry with planting of short rotation species, like Silver Oak, Melia dubia, and other species, like Sandal, Neem, Teak and Red sanders.
- ❑ For promotion of Tree growth in private land, the Government has relaxed felling and Transit regulations.
- ❑ Comprehensive accounting of ecosystem services provided to society by forest areas and Harvesting of medicinal plants in a scientific manner would generate huge revenue to the Department.
- ❑ Degraded forests are rejuvenated through afforestation, soil and water conservation measures. Where there is adequate rootstock, such areas are protected from biotic pressure, thereby encouraging natural regeneration. Alternatively, plantations are raised in other areas based on the requirement for small timber, fuel wood, and fodder.
- ❑ To reduce the effects of pollution caused by the human beings, vehicles and industries in urban areas by planting ornamental, shade-giving and fruit-bearing trees. Tree parks, wood lots and avenue plantations are also established in towns and cities to improve aesthetics 'Greening of Urban Areas' may be implemented.

7.1.12 Karnataka Bio-Diversity Board (KBB)

Karnataka is identified as one of the rich Bio-diversity areas of the country. Efforts are required to protect and conserve these varied resources for the future by identifying, documenting, creation of database and chalking out the programmes for conservation of endangered species. This includes survey and documentation of biological resources of the state, constitution of Bio-diversity Management Committee preparation of Peoples Biodiversity Registers, conducting awareness on the bio diversity conservation and imparting trainings. In 6012 Grama panchayats, Bio-diversity Management Committees

(BMCs) have been constituted and all GPs have been written People's Biodiversity Registers (PBRs).

During 2022-23, an amount of Rs.3.24 crore has been provided for Protection of Biodiversity in the state, out of which Rs.1.65 crore released and Rs.1.63 crore spent upto end of November 2022 to take up bio-diversity activities.

WAY FORWARD

1. Implementation of Biological Diversity Act 2002.
2. Reconstitution and Strengthening of Biodiversity Management Committees.
3. Updation of People's Biodiversity Registers and E-PBR at different level of administration blocks across the state.
4. Conducting Awareness Training Programmes on Biodiversity Act 2002.
5. Identification, Declaration and Conservation of Biodiversity Heritage Sites.
6. Research Projects and Special Studies on Biodiversity.
7. Other activities of the Board and Government towards Biodiversity conservation.
8. Enactment of Access and Benefit Sharing of Biological Resources and preparation of standard of operation.

7.1.13 Coastal Regulation Zone Management (CRZM)

The coastal stretches up to 500 metres from the HTL towards the landward side all along the sea coast, area up to 12 nautical miles in the sea, in case of river, creeks, bays, estuaries and backwaters up to a point till the tidal influence is felt and the land on either side of these tidally influenced water bodies up to a maximum of 50 metres is declared as "Coastal Regulation Zone" as per the MoEF Notification 2019 vide No. G.S.R 37(E) dated 18.01.2019 in supersession of Notification No. S.O. 19 (E) dated 6th January 2011. The coastal stretches so declared as CRZ is classified into 4 zones, viz., CRZ-I, CRZ-II, CRZ-III and CRZ-IV based on the ecological sensitivity and the land use pattern. Norms for regulation of activities in these zones and the institutional mechanism for enforcement of the provisions of this notification have also been built in.

Karnataka State Coastal Zone Management Authority (KSCZMA) has been constituted under the chairmanship of the Additional Chief Secretary to Government, Department of Forest, Ecology and Environment for ensuring compliance to the provisions of CRZ Notification.

Earlier, Karnataka State Coastal Zone Management Plan (CZMP) was prepared in accordance with the provisions of CRZ Notification, 1991. Then a revised CZMP as per CRZ Notification 2011 was approved by the MoEF & CC, GoI on 07.08.2018. To implement the provisions of CRZ Notification, there was a requirement for preparation of Coastal Zone Management Plan in accordance with the CRZ notification 2019.

The job of preparation of CZMP as per the provisions of CRZ Notification 2019 had been entrusted to National Centre for Sustainable Coastal Management (NCSCM), Chennai

on 11.11.2019. As mandated by MoEF & CC. NCSCM, Chennai had submitted a draft CZMP, which had been published for obtaining comments/ suggestions / objections from the Public and the Stakeholders by giving 60 days time on 27.04.2021. Due to enforcement of lockdown in the State during this notified period, extension was given for further 60 days from 07.08.2021. Public Hearing had been held at the District level namely Dakshina Kannada on 31.07.2021, Uttara Kannada on 15.09.2021 and Udupi District on 28.09.2021. As per the objections, suggestions and comments received, the concerned District Coastal Zone Management Committees have considered and recommended the same to KSCZMA.

Accordingly, NCSCM was requested to revise the draft CZMP and they had submitted the revised CZMP. As per the decision in the meeting held on 24.05.2022, KSCZMA had submitted the final draft CZMP to MoEF & CC, GoI for approval. The MoEF&CC has given it's approval for the CZMP of Karnataka on 02.09.2022.

7.2 WATER RESOURCES

Irrigation is an important source of raising productivity in agricultural sector. Expansion of both the groundwater and surface water resources have helped to increase the cultivated area under irrigation in the state over time. Around 80% of fresh water is used for irrigation purpose and remaining for domestic, industry purposes. As per the report on Israel Technology Based Farming expected water yield under different Basin is given in **Table 7.7**.

Table 7.7: Water yield in Karnataka in BCM

Basin	Area in Sq Km	Rainfall yield in BCM	Surface water yield in BCM	Ground water yield in BCM
Godavari	4450	3.57	1.42	0.25
Krishna	113180	82.27	27.45	8.79
Cauvery	34663	34.19	12.03	3.40
West Flowing Rivers	24878	84.55	56.6	1.50
Palar & Pennar	13150	8.85	0.91	0.93
Total	190321	213.43	98.41	14.87

Source: Report of ITBF

State has prepared master plans for the various river basins and the total utilization potential under major, medium and minor irrigation projects using surface water is 47.86 BCM and the present utilization is limited to 37.45 BCM as shown in **Table 7.8**.

Table 7.8 : Surface Water Utilization in Karnataka

Sl. No.	Basin –wise description	Ultimate Utilization in		
		BCM	TMC	Percentage
1	Krishna	26	927	70

Sl. No.	Basin –wise description	Ultimate Utilization in		
		BCM	TMC	Percentage
2	Cauvery	8	270	20
3	Godavari	1	22	2
4	Other basins	3	103	8
	Total for the state	37	1,323	100

Source: Report of ITBF

Details of trends in Irrigated Area for the past five decades are given in **Table 7.9**.

Table 7.9 : Trends in Irrigated Area in Karnataka (Area in lakh hectares)

Year	Gross Cultivated Area	Gross Irrigated Area	Net Irrigated Area	Gross Irrigated Area as a % of Gross Cultivated Area
1980-81	106.60	16.76	13.62	16
1990-91	117.59	25.98	21.13	22
2000-01	122.84	32.71	26.43	27
2010-11	130.62	42.79	34.90	33
2020-21	149.10	60.64	49.31	41

Source: Directorate of Economics & Statistics

Water for irrigation purpose comes from various sources such as wells, ponds, canals, rivers, dams, reservoirs, rainfall etc. Source-wise irrigation developed during 2020-21 is given in **Table 7.10**. Among all the sources of irrigation, the net area irrigated from the tubewells is highest (i.e.43.83%). The second important source is canals covering 29.95% and 7.00% area is covered by wells. Historically, though tanks have been considered the principal source of irrigation, their contribution is very minute (i.e.3.35%).

Table 7.10: Source-wise Irrigation during 2020-21 (Area in lakh hectares)

Source	Irrigated Area		%s ha. re to Net Irrigated Area
	Gross	Net	
Canals	17.68	14.77	29.95
Tanks	2.16	1.65	3.35
Wells	4.07	3.45	7.00
Tube/BoreWells	26.47	21.61	43.83
Other Sources	10.26	7.83	15.88
Total	60.64	49.31	100.00

Source: Directorate of Economics & Statistics

7.2.1. Year wise allocation and Expenditure on Major & Medium Irrigation Projects:

Expenditure on major and medium irrigation projects was Rs. 19,820.19 crores in 2021-22. Expected expenditure for the year 2022-23 is Rs. 19,668.99 Crores and the expenditure incurred to end of November 2022 is Rs. 11,642.01 Crores. **Table 7.11** highlights investment in irrigation projects.

Table 7.11 : Year wise Allocation and Expenditure of Irrigation Sector (Rs. in crores)

Year	Allocation	Expenditure
2019-20	17,212.33	17,277.69
2020-21	18,936.13	19,212.46
2021-22	19,971.58	19,820.19
2022-23	19,668.99	11,642.01 (up to Nov. 2022)

7.2.2 Irrigation Potentials Created through Major and Minor Irrigation Projects:

The surface water (canal) irrigation projects are classified into major, medium and minor irrigation projects based on the cultivated command area generated by them. Irrigation Potential Created Cumulative Area is detailed in **Table 7.12**, **Appendix 7.3** highlights irrigation potential created since VII Five Year Plan.

Table 7.12: Irrigation Potential Created–Cumulative area in lakh Ha.

Source	2019-20	2020-21	2021-22	2022-23 (Anticipated)
Major and Medium Irrigation	29.34	29.81	30.15	30.82
Minor Irrigation (Surface water)	12.11	12.20	12.30	12.35
Total	41.45	42.01	42.45	43.17

7.2.3 Krishna Bhagya Jala Nigam Projects (KBJNL)

(a) The Upper Krishna Project stage I and II has been completed in 2012-13 and completion report has been submitted to Central Water Commission (CWC). In addition to the above, Nigam has been entrusted with 31 additional projects with estimated cost of Rs.10,878.71 Crore incurring expenditure of Rs.4,700.37 crore upto November 2022 and as against the contemplated command area of 2,03,593 ha, potential created upto November 2022 is 76,900 ha by these projects.

(b) The estimated cost of additional on-going projects works out to Rs.26,971 crore. The expenditure incurred up to November, 2022 on the aforesaid projects is Rs.15,195.62 crore. The potential created by the additional projects up to November 2022 is 2,78,000 H.A. (Excluding UKP Stage I, II & III). Year wise allocation and expenditure on major irrigation projects by KBJNL is given in **Table 7.13**.

**Table 7.13: Year wise Allocation and Expenditure on major irrigation projects by KBJNL
(Rs. in Crores)**

Year	Allocation	Expenditure
2019-20	3,736.75	4,244.36
2020-21	5,284.38	6,005.41
2021-22	6,142.68	5,870.89
2022-23	6,126.24	3,237.07 (Up to November 2022)

(c) The Krishna Water Disputes Tribunal-II has passed an award in December, 2010 and further report in 2013 allocating 173 TMC of water to Karnataka State. Out of this, 130.00 TMC is the share of UKP Stage-III. The Government of Karnataka had accorded administrative sanction at a cost of Rs.51,148.94 crores (2014-15 price level), including cost of Rs.30,143.17 crores towards LAQ and R&R. The 09 project sub components under UKP Stage-III and the LAQ, R&R and BTDA are in progress. As on 30st November 2022, an expenditure of Rs. 14,480.96 crore has been incurred.

Under Upper Krishna Project Stage-III, it is proposed to provide irrigation facilities to 5.94 lakh hectares of land in drought prone areas of Vijayapura, Bagalkot, Kalaburagi, Raichur, Koppal, Gadag & Yadgiri districts by taking up 9 irrigation projects. As per Article 371(J) the districts benefitted from the Upper Krishna Project Stage-III are Kalaburagi, Yadgiri, Raichur, Vijayapura, Bagalkot, Gadag and Koppal districts in Northern Karnataka. Government has accorded administrative approval for implementation of Micro-irrigation (Drip irrigation) system as a pilot project under 2nd Stage of Ramthal (Marol) LIS. The project is completed, and is in operation and maintenance.

7.2.4 Other Schemes and Programmes

(a) Sonthi Lift Irrigation Scheme (LIS)

Sonthi LIS implemented in Kalaburagi and Yadgiri districts aims at providing irrigation water for 16,000 hectares on the left flank of river Bhima. The estimated cost of the project is Rs.673.90 crore. KBJNL has submitted a proposal to CWC, New Delhi for approval. The environmental clearance has been received from MOEF. The project has been approved by Central TAC and the same has been forwarded to Planning Commission for Investment Clearance and proposed to be taken under AIBP for availing central assistance. An expenditure of Rs.342.37 crore has been incurred up to 31st November, 2022 on the project.

(b) Improvement of Water Use Efficiency in NLBC command Area of Upper Krishna Project.

The Government of India has launched National Water Mission with a major objective of improving water use efficiency. Krishna Bhagya Jala Nigam Limited (KBJNL) has proposed a project for improving of water use efficiency in Narayanapur left bank canal command area the UKP covering cultivated area of 4.09 lakh hectares of NLBC, SBC, MBC, IBC and JBC spread over Vijayapura, Kalaburagi and Yadgiri districts. The project targets for achieving water use efficiency by 25% and the updated approved estimated

project cost is Rs.4,699.00 crore. This initiative will considerably benefit agricultural sector of the aforementioned three districts.

The Planning Commission, GoI had accorded "Investment Clearance" to NLBC-ERM project on 08-10-2013. The ERM component and Phase-I SCADA Automation under NLBC-ERM is completed. Phase-II of SCADA Automation for NLBC, SBC, MBC, JBC & IBC canal networks is almost completed. The GoI had released Rs.70.00 crores central assistance under AIBP scheme during 2014-15. Further, as against frozen Central Assistance, GoI has released Rs.929.50 crore. Balance Rs.11.10 crore Central Assistance is to be released by Government of India.

7.2.5 Karnataka Neeravari Nigam Limited Projects

The Karnataka Neeravari Nigam Limited (KNNL) is established by the Government of Karnataka in 26.11.1998 under Companies Act 1956 as a special purpose vehicle to accelerate the implementation of Krishna Basin Projects except Upper Krishna Project. KNNL has taken up numerous irrigation, tank filling and modernization works. 45 tank filling proposals in 13 districts were taken up by the Nigam covering 2,034 tanks with an estimated cost of Rs.9,361.57 crores incurring an expenditure of Rs. 4,974.03 crores. At present KNNL has taken up 39 projects with plan to create irrigation potential of 11,05,717 ha. Since inception upto November 2022 the cumulated potential created was 8,74,072.65 ha with an expenditure of Rs.28,495.93 Crore

To increase the irrigation efficiency and to save water KNNL has taken up modernization of 16 projects with an estimated cost of Rs. 10,751.89 crores incurring expenditure of Rs. 8,363.78 crores.

7.2.6 Visvesvaraya Jala Nigam Limited

Government of Karnataka vide its Order, Dtd 20.08.2016 has accorded approval for creation of new corporation namely M/s VISVESVARAYA JALA NIGAM LIMITED, BANGALORE, as a wholly owned Government of Karnataka undertaking under Water Resources Department.

Government has also transferred the projects namely Upper Bhadra Project, Yettinahole projects, Kadur lift scheme, Gayathri and Vani Vilasa Sagar projects and its related offices along with officers/staff to VJNL. Under Upper Bhadra, Gayatri and Vanivilasa Sagar projects, VJNL has planned to create 2,40,017 ha irrigation potential, upto November 2022 it has created 24,332 ha irrigated potential with an expenditure of Rs.18,513.39 crore.

7.2.7 Cauvery Neeravari Nigama Projects

Cauvery Neeravari Nigama Limited (CNNL) was established by the Government of Karnataka in 03.06.2003 under Companies Act 1956 as a special purpose vehicle to accelerate the implementation of Cauvery Basin Projects in Karnataka. The Cauvery basin in Karnataka is 34,273 Sq.Kms which constitutes about 17.99% of the geographical area of 1,91,791 Sq.Km in Karnataka. Major Rivers flowing in this basin are Harangi (50 KM), Hemavathy (245 KM), Lakshmanatheertha (131 KM), Kabini (230 KM), Shimsha (221 KM), Suvarnavathi (88 KM), Arkavathy (161 KM) and the main river Cauvery (381 KM). The Cauvery Basin is spread across 11 districts.

a) Allocation and Expenditure for the year 2022-23

Total grant of Rs.3,063.54 Crores (with O.B) has been allocated for the year 2022-23. The overall expenditure for all the projects upto the end of November 2022 is Rs.1,537.62 Crores. It is programmed to create a physical potential of 994 Ha in the current year.

b) Physical and Financial Progress of On-going Major and Medium Projects:

There are totally 29 potential oriented schemes taken up under the jurisdiction of Cauvery Neeravari Nigam Ltd Out of which 4 are major projects, 18 are Medium irrigation projects and 7 allied LIS schemes. Most of the works are physically completed. The Yagachi project, a major Potential oriented work and Kachenahalli Lift irrigation scheme is in progress.

Three zones viz., Irrigation (S) zone, Mysore, Hemavathy Canal Zone, Tumkur and Hemavathy Project Zone, Gorur are coming under the jurisdiction of CNNL. Cumulative potential created upto November 2022 was 4,44,604 ha incurring expenditure of Rs.10,321.84 Crore

c) The details of on-going projects are as below

1. Yagachi Project: The project envisages the construction of a composite dam across Yagachi River a tributary of Hemavathy near Chikkabyadagere village in Belur taluk of Hassan district. The planned utilisation from this project is 5.74 TMC to create an ultimate potential of 17,265 ha including Kyathanahalli LIS. The taluk benefitted by this project are Hassan, Belur and Alur of Hassan District. Kyathanahalli LIS is a part of Yagachi Project. Works of Kyathanahalli LIS are physically completed. Kamasamudra branch canal under Yagachi project is under progress. The irrigation potential created under Yagachi project (including Kyathanahalli LIS) since inception to the end of March-2022 is 15,373 Ha. potential of 494 Ha is programmed for the year 2022-23.

2. Kachenahally LIS: The project envisages to lift 0.73 TMC of water in 3 stages from Hemavathy River near Kachenahalli Village in Channarayapatna taluk of Hassan District. The ultimate potential to be created is 5,100 Ha. In 1st stage works are completed. In 2nd stage canal distributaries are under progress. 3rd stage work is under progress. The irrigation potential created under Kachenahally since inception to the end of March-2022 is 3,238 Ha. potential of 500 Ha. is programmed for the year 2022-23.

3. Modernisation of Anicut Canals: Under the jurisdiction of CNNL, it is proposed to take up modernisation of anicut canals under 22 anicuts. Accordingly, 28 anicut canals/branch canal modernization are taken up in phases with the total estimated cost of Rs.1,616.67 crores. Among these, 27 works are completed, 1 works is on-going. The cumulative expenditure incurred up to end of November 2022 is Rs.2,118.20 Crores.

7.2.8 Improvements of Canal system

- Improvements to canals under reservoirs has also been taken up to improve the system efficiency. A total of 42 modernization works at a cost of Rs.5,063.40 crore has been taken up in CNNL out of which 32 works (Est cost: Rs.2,834.03 Cr) are completed, 8 works (Est cost: Rs.2182.37 Cr) namely D.D.Urs canal ch:49 to 75 Km, Taraka Right Bank canal 10 to 36 Km, Hebbala left bank canal 0 to 27.20 Km, VC system under

KRS project package 1A, Hemavathy Right bank canal 0 to 92.48 Km, Hemavathy Right Bank High level canal ch:0 to 96.82 Km and Tumkur branch canal 0 to 70 Km & Y alignment re modeling & Tumkur branch canal 70.36 to 166.90 Km are under progress.

- ❑ Tender is under process for 2 works namely Improvements to D-12 under Tumkur Branch canal of Hemavathy & Improvements to D-15 under Tumkur Branch canal of Hemavathy (Total Est Cost: Rs.47.00 Cr).
- ❑ The cumulative expenditure incurred up to end of November 2022 is Rs.4,782.28 crores

7.2.9 Drinking water supply schemes (Tank Filling Schemes)

- ❑ To alleviate the severe drinking water problems in the drought prone areas, 75 drinking water schemes at an estimated cost of Rs.4,960.86 crore has been taken up under the jurisdiction of CNNL. It is proposed to fill 1,759 tanks to benefit 2307 villages coming under Mysore, Mandya, Kodagu, Tumkur, Hassan, & Ramanagara, Chamarajanagara district.
- ❑ Out of 75 schemes, 34 schemes namely Doddaguni, Gulur Hebbur, Honnavalli, Kergodi Rangapura, Alambur, Kanva, Chikkanandi, Neralekere, Bellavi, Kanathur, Dabbehatta, Shivasandra, Hagalavadi, Chelur, Kodiyala, Mathikere, Devarayapatna, Kenkere, Neeragunda, Alilughatta, Elechakanahalli, Gandhigrama, Satanur-Kailancha, Halebeedu-Madehalli, Nugehalli, Arakalgudu-Ganganalu, Mukkanahally, Gollarahosahalli, Bhadrapura, Vajranakatte, Kodiyala, Bandihalli, Byaladakere, Bellur Dasanakere DWS are completed & commissioned.
- ❑ 37 schemes namely Suthur, Hura, Garalapura, Narayanapura, Muthinamulusoge, Bannhalli, Ramanagudda, Ibbajala, Styagala, Byramanagala, Hadya, Mallipatna, Athaguru, Malligere, Tittamaranahalli, Nugu, Hosapura, Hiresave-Shravanabelagola, Rangenahalli, Channarayapatna ammanikere, Kallesomanahalli, Anekere shambudevearakere, Dudda & shantigrama, Guddehosahally, Chakenahalli, Ranaghatta, Satyamanagala, Rangenahalli 2nd stage, Rajatadripura, Biligere, Aralaguppe, Sriranga, Bikkegudda, J.C.Pura, Madenuru, Sopanahalli and Chikkanayakanahalli tank filling schemes are under progress.
- ❑ Tender is under process and yet to invited for 4 schemes namely Dudda-Shantigrama 3rd stage, Hediya, Raghavapura, and Matadahalla tank filling schemes.
- ❑ The cumulative expenditure incurred up to end of November 2022 is Rs.2,950.66 Crores.

WAY FORWARD

7.2.10 The National Hydrology Project

1. National Hydrology Project (NHP) is taken up by Ministry Of Water Resources (MOWR) with World Bank Assistance and it is 100% Central funded project for the State. The project is proposed over a period of 8 years and to be executed in two phases i.e, Phase I : FY 2015-16 to 2020-21(5 years) Phase-II: FY 2020-21 to 2023-24 (3 years) . The project is effective from 05-05-2017.

2. National Hydrology Project (NHP) aims at Establishment/modernization of new & existing hydro met observation networks to automated, real time monitoring systems for both surface water and Ground Water. Under this project, the works of establishment of Telemetric rain gauge stations, Automatic weather stations, Digital Water Level Recorder, Hydrological observations stations are being taken up. Also, the works of SCADA for reservoirs & Bathymetric Survey for reservoirs are being carried out.
3. The Annual Work Plan for 2022-23 is approved for Rs.40.74 crores by MoWR. An amount of Rs. 27.47 crore is released by Government of India and the Financial Progress till date is Rs. 15.94 crore.

7.2.11. Dam Rehabilitation & Improvement Project (DRIP)

DRIP Phase-I

- ❑ Rehabilitation works of 22 Dams of the State were taken up with an allocation of Rs.541.00 crore under World Bank Loan assisted Dam Rehabilitation & Improvement Project (DRIP). Out of 43 Packages of 22 Dams, the works of 42 packages are physically and financially completed. The remaining one package work (KRS Dam package II work with a cost of Rs.58.46 crore) is under progress. Revised due date for completion of the work is 30.04.2023. Dam Instrumentation for 12 DRIP Dams to be retendered under DRIP-II.

DRIP Phase-II & Phase-III

- ❑ Government of Karnataka has accorded approval for the Implementation of Dam Rehabilitation & Improvement Project (DRIP) Phase-II and Phase-III for 58 dams, to be implemented with Loan Assistance from the World Bank at a cost of Rs.1,500.00 crores vide Government Order, DATED:06.07.2021. The duration of project is 10 years for two phases. Empowered Committee (EC) for DRIP Phase II & Phase III is constituted for smooth implementation of Project vide Government Order: WRD 16 DSP 2021, Bangalore, Dated: 22.10.2021.
- ❑ Conditional No Objection letter from CWC/World Bank has been received for Project Screening Templates (PSTs) of 08 Dams (Gayathri, Tungabhadra, KRS, Narayanpur, Almatti, Taraka, Votahole & Hemavathy), Out of which NIT has been published for 11 packages, Executive Order issued for 6 packages and works are under progress. Executive Order issued for 3 packages, agreement to be executed. No Objection letter from CWC/World Bank is awaited for 5 Dams. Other Dams Project Screening Templates (PSTs) are under preparation. DSRP/DSRT inspections are to be conducted for few DRIP Phase II and Phase III dams, Accordingly the PSTs will be prepared.
- ❑ Two works of DRIP I has been Spill over to DRIP Phase II and III
 - 1) KRS hydro-mechanical -Package II: The work has been continued as spill over under DRIP Phase II & III. However, the Revised date of completion is 30.04.2023. The expenditure upto November 2022 is Rs. 32.10 crore.
 - 2) Instrumentation for 12 Dams works Agreement to be executed.

7.2.12. Accelerated Irrigation Benefit Programme (AIBP) including CADWM

Gol prioritized 99 projects under AIBP of PMKSY scheme, in which, 5 projects of Karnataka are included. Out of these 5 projects, Sri Rameshwar LIS project is included under top priority & the remaining 4 namely Upper Tunga Project, Bhima LIS Karanja & NLBC-ERM are prioritized next. Total Central Assistance for CADA activities received for the said projects during 2020-21 is Rs. 6.89 crores (CADWM only), during 2021-22 Central Assistance not released and 2022-23 proposal submitted for Rs.12.672 crores for Upper Tunga Project and Central Assistance yet to be released. Sri Rameshwara LIS and Bhima LIS CADWM components are completed.

7.2.13 Karnataka Integrated and Sustainable water Resources management Investment Programme (KISWRMIP)

Under KISWRMIP with the assistance of Asian Development Bank(ADB) various Nigams have taken up the works of modernization of main canals inventory of River basins to prevent flooding. Command area development works State specific action plan on Climate changes various training Programmes etc.

7.2.14 MINOR IRRIGATION (SURFACE WATER)

Projects having atchkat up to 2,000 Ha. are classified as Minor Irrigation schemes. Projects having atchkat between 40 Ha to 2,000 Ha are under the jurisdiction of the Minor Irrigation Department. These include tanks, pickup, Bhandaras, Barrages and Lift Irrigation Schemes. These Minor Irrigation projects are widely spread all over the state. Presently, there are 10,448 minor irrigation projects in existence under the jurisdiction of this Department with a culturable command area of 8,53,903 hectares. In addition to these projects, this Department is looking after the operation and maintenance of 7 Medium Irrigation projects having a command area of 8,342 hectares.

Minor Irrigation Department is having 3,238 Irrigation tanks and 518 Percolation tanks. These tanks are being inspected twice in a year by the concerned Executive Engineers and Assistant Executive Engineer. The defects noticed during inspection will be recorded in the inspection report. Necessary repair works will be taken up from the grants made available during the year on priority. The minor irrigation scheme progress from the year 2019-20 to 2022-23(Upto end of the November 2022) is provided in the **Table 7.14**.

Table 7.14: Statement showing progress under Minor Irrigation (Surface water) Schemes

Year	Expenditure (Rs. in Lakhs)	Potential created (in Ha)
2019-20	2,29,428.87	21,872.66
2020-21	2,78,277.24	33,138.05
2021-22	2,74,601.69	23,388.42
2022-23 (Upto the end of Nov. 2022)	1,44,903.81	9,370.78

I State Schemes

1. Construction of new tanks: Under this head of account new tanks are constructed and water is being stored during rainy season to supplement the deficit of water to the crops during non rainy period or scarce rainfall period. Earthen bunds are constructed across the rivers, streams etc and the water is being stored during rainy season which will be utilized for irrigation during deficit rainfall period. The Minor Irrigation Department is involved in proper distribution of stored water to the fields for irrigation by gravity flow. Construction of new tank is being carried out from state fund and also from NABARD loan assistance. Construction of the Percolation tanks are also being done under this head of account which are mainly intended to recharge the Ground Water table and help in raising the water level in the bore wells and open wells in the surrounding area which will be used for irrigation.

2. Modernization of tank: Under this head of account, Department is taking up modernization of tanks under which the works such as strengthening of bund, repair of waste weirs, canals including lining of canals are being taken up.

3. Construction of Barrage, Anicut, Etc. Under this head of account Department is taking up the construction of barrages, bridge cum barrages, vented dams, salt water exclusion dams, anicut and pick ups across rivers and streams to store water. Permission is being given to the farmers to lift water from these storage structures for irrigation by using their own pumps. As a result, there will be increase in ground water table in the surrounding area and water will be available in the open wells and bore wells. Thereby, farmers will get water for irrigation and also drinking purposes.

4. Lift Irrigation Schemes: Under this head of account Department is implementing the lift irrigation schemes to lift water from the rivers, streams, and other surface water sources to an elevated area and to provide irrigation to the farmers lands.

In accordance with Budget Speech during 2016-17, Administrative Approval has been accorded in vide GO, dated 20-10-2015 for filling treated waste water to 126 tanks of Kolar and Chikkaballapur districts from Koramangala Challaghatta valley. The work is in progress.

Administrative Approval has been accorded for Rs. 883.54 crores vide GO, dated 21-06-2016 for filling treated waste water to 54 tanks of Chikkaballapur district. The work is in progress.

Administrative Approval has been accorded for Rs. 240.00 crores vide GO dated 10-05-2016 for filling treated waste water to 60 tanks of Anekal taluk Bangalore Urban district. The work is in progress.

5. Special Component Plan: Under this head of account, department has taken up MI Schemes such as construction of new tanks, anicut / pickup bhandars, modernization of tanks and lift irrigation schemes etc., to create irrigation facility to the lands belonging to scheduled caste beneficiaries.

An expenditure of Rs.15,354.52 lakhs is incurred against the grant of Rs. 25,000.00 lakhs during 2022-23 (End of November 2022). Irrigation facility of 1,364.4 Ha is created against

the target of 5,236.85 Ha. during 2022-23 (End of November 2022). These schemes are being handed over to respective beneficiaries after construction.

6. Tribal Sub plan: Under this head of account department has taken up MI schemes such as construction of new tanks, anicut / pickup bhandars, modernization of tanks and lift irrigation schemes etc., to create irrigation facility to the lands belonging to scheduled tribe beneficiaries.

An expenditure of Rs.6017.94 lakhs is incurred against the grant of Rs.11,000.00 lakhs during 2022-23 (End of November 2022). Irrigation facility of 542.13 Ha is created against the target of 2,001.56 Ha. 2022-23 (End of November 2022). These schemes are being handed over to respective beneficiaries after construction.

7. Pashchima Vahini: Vented dams are constructed under “PaschimaVahini” project to collect and store water flowing in west-flowing rivers of coastal districts. A total of 54 works have been approved under the scheme, with an estimated cost of Rs.374.00 crore. An expenditure of Rs.18703.59 lakhs is incurred against the grant of Rs.25000.00 lakhs during 2022-23 (End of November 2022).

8. Land Acquisition/charges & settlement of claims : Under this head of account an expenditure of Rs.4704.38 lakhs is incurred against the grant of 4704.38 lakhs during 2022-23 (End of November 2022). Mainly this grant has been utilized to make payments to land acquisition cases involving enhancement of land values including the interest as per the court orders.

9. Accelerated Irrigation Benefit Programme (AIBP) Major works : Government of India is giving approval for taking up of the new minor irrigation works involving the creation of fresh irrigation facility since 2009-10, in the Drought Prone Area Development Programme (DPAP) taluks under Accelerated Irrigation Benefit Programme (AIBP).

Minor irrigation department is implementing 1273 minor irrigation works with an estimated cost of Rs.955.08 crores after obtaining approval to these works in 10 batches since 2009-10. So far 1157 works are completed and the new irrigation facility is created in 10255.00 Ha.

10. State Schemes Flood Control Works: The Minor Irrigation Department is implementing River bank protection works to prevent damages due to floods. The river banks are being protected by the construction of retaining wall to the river banks for the prevention of loss of lives and properties due to the erosion of the banks during the floods in rivers and streams.

11. Karnataka Tank Conservation and Development Authority: The Authority started functioning from November 2017. The functions of Karnataka Tank Conservation and Development Authority include Conservation of Lakes/Tanks, rejuvenation, Ground Water Development, Environmental Protection, Wet Land Development, Water Management, Agriculture and Horticulture Development, Development of Agriculture based Industries etc., either directly or through Departments/Agencies.

WAY FORWARD

Promote sustainable agri-practices by creating awareness of the existing schemes around subsidizing micro-irrigation (Per Drop More Crop, Micro-Irrigation Fund), preserving soil health (Paramparagat Krishi Vikas Yojana, Soil Health Card) and host of initiatives under National Mission for Sustainable Agriculture. Prioritize districts like Belagavi, Raichur, Vijaya Pura, Bagalokote which have high potential for micro irrigation.

A holistic approach including precision farming, protective cultivation, automation in irrigation, fertigation, use of treated waste water for irrigation and collective farming are some of the methods suggested to address major concern of water scarcity in the state. A marked shift from traditional method of irrigation to innovative micro irrigation system is the solution to conserve water and thus increase the availability of water for various other purposes. Adoption of poly houses, net houses, green houses will not only save water, energy and labour costs but also will increase crop productivity and quality of the produce. Converting more and more areas of canal based and tank based flood irrigated land into drip irrigation leading to substantial reduction in the usage of fresh water. These key measures are expected reduce water scarcity to a large extent in the state.

7.3 GEOLOGY AND MINING SECTOR

The Department of Mines and Geology is one of the leading scientific and technical department of the State with a long history of 127 years. Major functional activities of the department include mineral exploration, assessment of mineral wealth, quality analysis and sanctioning of mining leases and quarrying leases through the Minerals Administration and also include collection of royalty and regulation of unauthorized mining activities. The contribution of the department is immense in sustainable development of the State by promoting environment friendly and scientific mining.

7.3.1 Revenue collection and operational expenditure of the department

The annual target of revenue collection for the Department of Mines and Geology in the year 2022-23 is Rs.6,500.00 crores. The revenue target till November-2022 is Rs.4,160.00 crores and have achieved revenue collection of Rs.3,559.33 crores. The details of revenue collections from 2019-20 to 2022-23 (up to November-2022) are given in the **Table 7.15**.

Table 7.15: Yearwise details of achievement of revenue collection and target

(Rs. in crore)

Year	Annual Target	Achievement	Major Mineral	Minor Mineral
2019-20	3,550.00	3,629.02	1,816.67	1,812.35
2020-21	3,750.00	3,893.44	1,974.66	1,918.78
2021-22	4,357.00	6,308.31	4,092.80	2,215.51
2022-23	6,500.00 (Rs.4,160.00 crores target up to Nov-2022)	3,559.33	2,213.89	1,345.44

Royalty collection in the table is as per reconciled figures.

Source: Demand-Collection-Balance Section, Department of Mines & Geology.

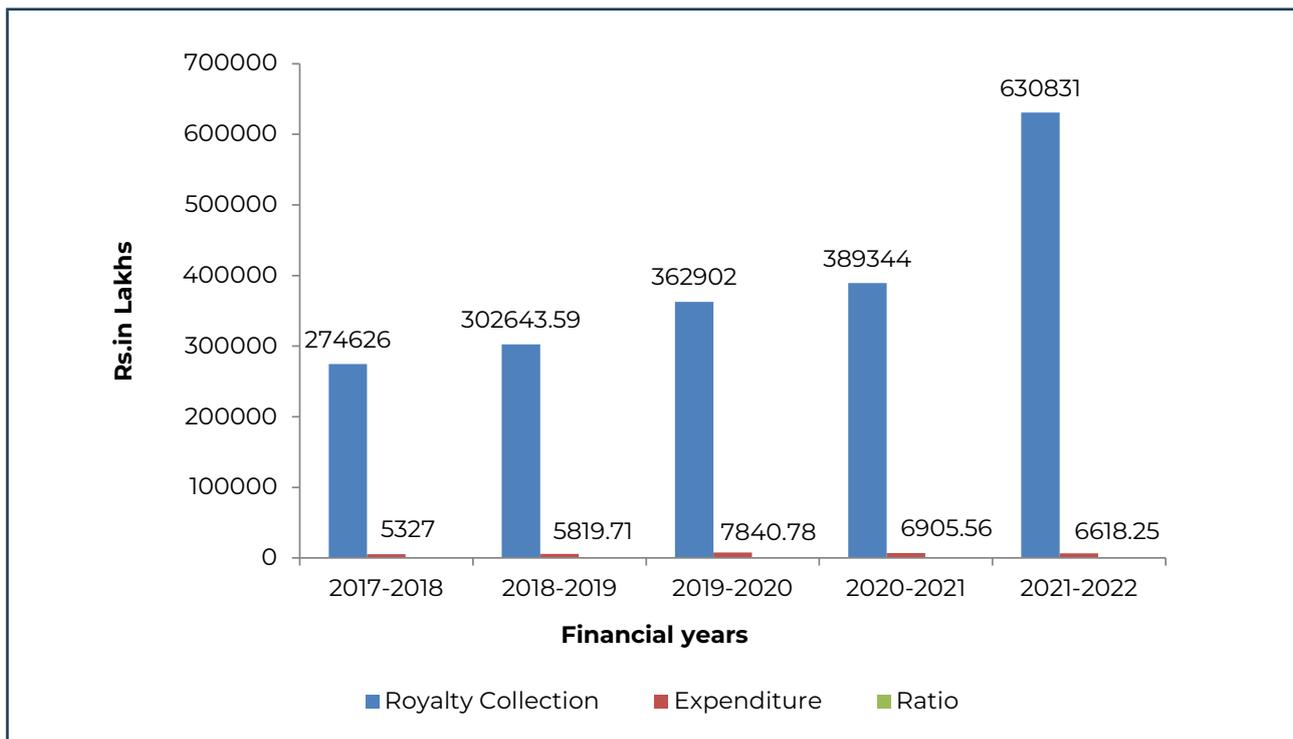
Further, the compound annual growth rate of 9.98% has been achieved in the royalty collection over the last five years. Compared to the last 5 years' revenue collection of the Department of Mines & Geology with the plan and non-plan expenditure, the ratio is just

0.02 which is very negligible. The detailed information is provided along with **Figure 7.3** and in the **Table 7.16**.

Table 7.16: Details of Royalty Collection, plan & non-plan expenditure and their ratio for the past five years (Rs. in lakhs)

Sl. No.	Year	Royalty	Expenditure	Royalty and expenditure ratio
1	2017-2018	2,74,626.00	5,327.00	0.02
2	2018-2019	3,02,643.59	5,819.71	0.02
3	2019-2020	3,62,902.00	7,840.78	0.02
4	2020-2021	3,89,344.00	6,905.56	0.02
5	2021-2022	6,30,831.00	6,618.25	0.01

Figure 7.3: The bar chart showing royalty collection, expenditure and their ratio of the department for the past five years



7.3.2 Major Achievements of the department:

1. Karnataka State is awarded with “Rashtriya Khanij Vikas Puraskar” third prize under category-I (Fe, Limestone, and Bauxite) for performance in Mineral Exploration, Auction of Mineral Blocks and Commencement of Mining Operations during the year 2019-20 and 2020-21 from Ministry of Mines, Government of India.
2. This award included Rs.1.00 crore cash reward and the certificate. Apart from this, Rs.2.05 crores financial incentive towards auction of mineral blocks was given to the State.

3. The State has successfully auctioned 34 mineral blocks till date in which 5 are Composite License and 29 are Mining Lease (24 iron ore, 8 limestone and 2 gold) and stands second in the country after Orissa with 40 blocks.
4. Out of 34 successfully auctioned blocks, production has started in 11 blocks and generating more revenue for the State. Lease deed execution of 5 'C' category Iron ore blocks are pending due to non-availability of forest clearance.
5. Karnataka is the first State to successfully auction expired mining leases and also to execute the mining lease for an auctioned expired block in the year 2019.
6. State had issued tender notification for 27 blocks auction in the financial year 2021-22 and has successfully auctioned 12 blocks, which are the highest numbers in any financial years since the onset of the auction regime.

7.3.3 Major Mineral Administration

Since the promulgation of Mines and Minerals (Development and Regulation) Amendment Act, 2015 by Central Government, grant of mining leases through first come first serve has been replaced with transparent e-auction process leading to the increased flow of revenue to the state exchequer. Further, a comparison between the revenue collection from the auctioned Iron ore mining leases and non-auctioned mining leases shown in the **Table 7.17** illustrates the economic impact after adopting new regime of granting the mining leases through auction.

Table 7.17 : Comparative analysis of royalty realization from the leases granted through auction and non-auction in the past four years (Rs. in crores)

Sl. No.	Type of grant of mining lease and their numbers and present status	2019-20	2020-21	2021-22	2022-23 (November)
1	Non auction: Out of 290 mines 111 mines are working	1,331.80	1,382.06	1,919.12	1,069.09
2	Auction: Out of 13 mines 12 mines are working	92.45	121.57	255.81	132.01
3	**Percentage of value of Mineral Dispatched paid to the Government (from auction blocks)	467.75	471.02	1550.66	782.89
Total		1,892.00	1,974.65	3,725.59	1,983.99

A total of 112 iron ore & manganese mining leases have been sanctioned in the State over an extent of 8,646.27 hectares, 134 limestone mining leases have been sanctioned over an extent of 15,518.12 hectares and 44 other major minerals mining leases have been sanctioned over an extent of 8,724.59 hectares.

7.3.4 Auction of Mineral Blocks

From 2016-17 to 2022-23 (till November-22), the Department has successfully auctioned 34 mineral blocks including 17 'C' category iron ore leases, 07 expired iron ore mines, 02

Gold blocks and 08 limestone blocks. Out of these blocks, mining lease deeds has been executed for 15 blocks and in remaining 19 cases, bidders are yet to comply with the statutory requirements for execution of lease deed.

7.3.5 National Mineral Exploration Trust

As per the section 9(C) of Mines and Minerals (Development and Regulation) Amendment Act, 2015, all the major mineral lease holders are required to pay 2% of the royalty to the National Mineral Exploration Trust (NMET) constituted by the Government of India. This fund is managed by the Central Government and by utilizing these funds upon taking the concurrence of respective State DMG's and within the approval of NMET the agencies notified by the Central Government like GSI, MECL and KIOCL etc., and also through the concerned State Mines and Geology Departments exploration activities of major minerals is being carried out.

During the period 2015-16 to 2022-23 (up to September 2022) an amount of Rs.22,601.11 lakhs has been collected and transferred to the NMET account by the State Government. The details are given in the following **Table 7.18**.

Table 7.18 : Details of amount collected for NMET fund from 2015-16 to 2022-23 (upto September 2022)

(Rs. in Lakhs)

Year	Royalty collected	NMET contribution due (2% of royalty)	NMET contribution collected	Amount transferred to NMET account
2015-16	2,088.60	41.77	41.77	41.77
2016-17	77,607.81	1,552.16	1,632.69	1,632.69
2017-18	1,79,890.15	3,597.80	3,724.56	3,724.56
2018-19 (Month wise breakup till closure of SBI A/c)	19,415.40	388.31	1,096.71	1,096.71
Total	2,79,001.96	5,580.04	6,495.73	6,495.73
NMET collection and transfer as per Accountant General's statement				
2018-19 (Month wise breakup after adoption of new accounting procedure)	1,10,198.45	2,203.97	2,782.75	2,782.75
2019-20	1,37,922.07	2,758.44	2,893.73	2,893.73
2020-21	1,51,705.08	3,034.10	3,250.95	3,250.95
2021-22	2,55,339.07	5,106.78	5,279.39	5,279.39
2022-23 (September -2022**)	86,685.46	1,733.71	1,898.56	1,898.56
Total	7,41,850.13	14,837.00	16,105.38	16,105.38
Grand Total	10,20,852.09	20,417.04	22,601.11	22,601.11

**This is the reconciled amount as per the AG office.

7.3.6 Mineral Exploration programmes taken in the State under NMET fund:

By identifying the mineral blocks in various districts of the State, agencies notified by Central Government are carrying out mineral exploration work under the NMET fund. During the year 2021-22, the Department has received a total of 24 exploration proposals. 07 proposals were given concurrence by the Department of Mines and Geology to take up exploration and have rejected 14 proposals due to overlapping issues. Remaining 03 proposals were under review.

In the year 2022-23, a total of 19 proposals (including 03 pending proposals) have been reviewed by the department and has given consent for 10 proposals. 03 proposals have been rejected due to overlapping issues and remaining 06 blocks are under review.

Further, under this fund 14 mineral exploration programmes at the estimated cost of Rs.39.10 crores have got the approval under NMET fund. Out of them exploration work is complete in 10 blocks and 04 blocks exploration work is under progress.

7.3.7 Notified Private Exploration Agencies (NPEA's)

National Mineral Exploration Policy (NMEP) 2016 envisages private sector participation in mineral exploration and to facilitate, encourage and incentivize private sector participation in all spheres of mineral exploration to harness the technical expertise, technological capability and the financial resources of the private sector to discover and exploit the country's vast mineral resources.

Accordingly, GOI has amended the Mines and Mineral (Development and Regulation) Act, 1957 (MMDR Act) in 2021 and initiated the process of notifying the Private Exploration Agencies under Section 4(1) to undertake exploration.

Vide order dated: 12.08.2021, Ministry of Mines issued a guideline on procedure to be adopted in Notifying the Private Exploration Agencies as per the scheme prescribed by QCI-NABET.

Accordingly, so far total 13 Private Exploration Agencies (PEA) have been notified by GOI across the country. Out of which 3 are notified in the state.

The Central Government has issued a guideline regarding the utilization of the services of PEA's and have classified the mode of projects into Mode-A, Mode-B & Mode-C respectively for direct projects taken up by PEA's under NMET fund, assisting the State Government projects under NMET fund and projects of State Government under State fund.

DMG, Karnataka has received 08 proposals from 03 Private Exploration Agencies (M/s. V. M. Salgaocar and Brother Private Limited-01, M/s. GeoExpOre Private Limited-05 & M/s.Ecomen Laboratories Pvt. Ltd-02) seeking in-Principle approval under Mode-A (from NMET fund) from 2021-22 to till date.

Out of 08 proposals, DMG has given In-Principle approval for 03 proposals and have rejected 01 proposal.

7.3.8 Exploration programmes carried out by the Department

During the year 2021-22, exploration wing of the department has carried out preliminary exploration programme in 10 blocks, the details are given in the **Table 7.19**.

Table 7.19: The details of preliminary exploration programme in 10 blocks during the year 2021-22

Sl. No.	Name of the block & No.	Extent (Hectare)	Village	Taluk & District	Mineral	Remarks
1	Byralinganahalli quartz block (Block_2021_2022_001)	3.00	Byralinganahalli	Chikkanayakanahalli, Tumakuru	Quartz	G4 report submitted.
2	Nandagudi clay block (Block_2021_2022_002)	26.30	Nandagudi	Hosakote, Bengaluru Rural	Clay	Primary field work is completed
3	Shidlaghatta clay block (Block_2021_2022_003)	48.00	Shidlaghatta	Chikkaballapura	Clay	Primary field work is completed
4	Sakkarayapatna quartz block (Block_2021_2022_004)	4.10	Sakkarayapatna	Kadur, Chikkamagaluru	Quartz	G4 report submitted.
5	Uligere quartz block (Block_2021_2022_005)	18.60	Uligere	Kadur, Chikkamagaluru	Quartz	G4 report submitted.
6	Ketumaranahalli quartz block (Block_2021_2022_006)	5.19	Ketumaranahalli	Kadur, Chikkamagaluru	Quartz	G4 report submitted.
7	Hosahalli quartz block (Block_2021_2022_007)	3.26	Hosahalli	Kadur, Chikkamagaluru	Quartz	G4 report submitted.
8	Devaramallapura quartz block (Block_2021_2022_008)	3.94	Devaramallapura	Sanduru, Ballari	Quartz	Primary field work is completed
9	Belagala Tanda quartz block (Block_2021_2022_009)	73.20	Belagala Tanda	Ballari	Quartz	Primary field work is completed.
10	Nadavi quartz block (Block_2021_2022_010)	60.00	Nadavi	Siraguppa, Ballari	Quartz	Primary field work is completed

During the year 2022-23 (till November 2022), the exploration wing of the department has carried out preliminary exploration programme in 07 blocks, the details are given in the **Table 7.20**.

Table 7.20 : The details of preliminary exploration programme in 07 blocks during the year 2022-23

Sl. No.	Name of the block & No.	Extent (Hectare)	Village	Taluk & District	Mineral	Remarks
1	Amate Bauxite block (Block_2022_23_001)	39.6	Amate	Khanapur, Belagavi	Bauxite	Primary field work is completed

Sl. No.	Name of the block & No.	Extent (Hectare)	Village	Taluk & District	Mineral	Remarks
2	Biluru Bauxite block (Block_2022_23_002)	31.5	Biluru	Khanapur, Belagavi	Bauxite	Primary field work is completed
3	Biluru Bauxite block (Block_2022_23_003)	4.71	Biluru	Khanapur, Belagavi	Bauxite	Primary field work is completed
4	Biluru Bauxite block (Block_2022_23_004)	20	Biluru	Khanapur, Belagavi	Bauxite	Primary field work is completed
5	Navge Bauxite block (Block_2022_23_005)	60	Navge	Belagavi	Bauxite	G4 report submitted.
6	Kalluru Copper block (Block_2022_23_006)	80	Kalluru	Manvi, Raichuru	Copper	Primary field work is completed
7	Ubrani Titaniferous agnetite block (Block_2022_23_007)	6.12	Ubrani	Channagiri, Davanagere	Titaniferous Magnetite	Primary field work is completed

7.3.9 Minor Mineral Administration

The 612 specified minor mineral quarry leases (including ornamental granite) over an extent of 3,329.06 acres and 2,700 non-specified minor mineral quarry leases (excluding ordinary sand) over an extent of 10,026.32 acres have been granted in the State of Karnataka. In this year, till November 2022, the department has granted/executed 148 non-specified and 22 specified minor mineral quarry leases.

At present 179 auctioned sand blocks over an extent of 2,340.27 acres and 125 patta land sand blocks over an extent of 996.04 acres are working in the State.

7.3.10 District Mineral Foundation Trust

Government of India has amended the MMDR Act w.e.f 12.01.2015 wherein under Section 9(B) a provision has been made to establish a trust called the "District Mineral Foundation" which is a non-profit body to formulate and implement programs for the development of the people living in the mine-affected area and supplemented by the guidelines of Pradhan Mantri Khanija Kshetra Kalyana Yojana issued on 16.09.2015.

The State Government vide G.O. dated 05.11.2015 notified the establishment of non-profit District Mineral Foundation (DMF) in each of the district of Karnataka. Further, the State Government, in exercise of the powers conferred by Section 15(4) of MMDR Act, framed

the Rules of District Mineral Foundation (DMF) on 11.01.2016 under the guidelines of Pradhan Mantri Khanij Khsethra Kalyan Yojan (PMKKKY) and same has been amended on 25.07.2016, 08.03.2018 and 06.05.2020.

7.3.11 In respect of major mineral, Government of India vide Notification dated: 17.09.2015 has directed to collect the DMF from;

- (i) Mining lease granted after 12.01.2015, Collection of DMF amount at the rate of 10% on royalty.
- (ii) Collection of DMF amount for Mining lease granted on or before 12.01.2015 at the rate of 30% on royalty. As per order dated: 13.10.2017 passed by the Hon'ble Supreme Court in Transfer Case (Civil) No: 43/2016 FIMI v/s Union of India and others, collection of royalty as per the DMF rules with effect from dtd: 17.09.2015. Accordingly, DMF amount is being collected from the mining lease holders from 17.09.2015.

With respect to minor minerals as per the KMMC (amendment) Rules, 2016, which is applicable from 12.08.2016, 30% of royalty is collected as DMF from the quarry lease holders which were granted prior to 2016 and 10% of royalty is collected as DMF from the leases granted through auction for which the lessees are paying average additional periodic payments/additional periodic payments. The details are given in the **Table 7.21**.

Table 7.21 : District wise details of approved action plans under DMFT fund from 2015-16 to 2022-23 (up to Nov-2022)
(Rs. in Crores)

Sl. No.	District	DMF Collection from 2015-16 to Nov-2022	85 % Available Amount	Approved Action plan Amount	Amount Spent	Total No. of Projects	No. of on going projects	No. of projects completed	No. of project yet to start	No. of projects scrapped/ cancelled
1	Ballari	1741.04	1479.89	1593.68	527.20	1549	190	767	264	328
2	Vijaynagara (Hospete)	438.74	372.93	631.38	269.58	1164	206	522	246	190
3	Kalaburagi	475.48	404.16	540.84	101.23	1343	168	880	248	47
4	Chitradurga	388.50	330.23	319.40	211.78	304	162	89	44	9
5	Bagalkot	99.48	84.56	114.10	69.34	349	61	214	71	3
6	Koppal	61.54	52.31	88.91	39.53	466	131	158	177	0
7	Raichur	52.49	44.61	70.23	35.57	178	99	42	6	31
8	Chikkaballapura	53.93	45.84	78.03	23.91	146	61	44	12	29
9	Ramanagara	47.34	40.24	27.51	22.34	487	118	286	35	48
10	Bangalore Urban	47.74	40.58	76.35	31.21	607	65	349	171	22
11	Tumkur	43.67	37.12	49.96	31.04	791	28	206	369	188
12	Belgaum	40.14	34.12	29.43	24.95	265	204	38	23	0
13	Bangalore Rural	36.27	30.83	36.86	19.22	882	468	285	104	25
14	Chamarajanagar	28.89	24.56	23.45	9.72	59	18	10	23	8
15	Hassan	18.05	15.34	11.63	9.24	321	51	257	5	8
16	Uttara Kannada	13.51	11.48	7.62	6.89	97	6	84	1	6
17	Kolar	13.25	11.27	5.93	2.63	160	78	82	0	0
18	Dakshina Kannada	12.12	10.30	1.66	1.36	52	8	41	3	0
19	Chikkamagaluru	12.86	10.93	7.02	5.17	122	49	46	3	24

Sl. No.	District	DMF Collection from 2015-16 to Nov-2022	85 % Available Amount	Approved Action plan Amount	Amount Spent	Total No. of Projects	No. of on going projects	No. of projects completed	No. of project yet to start	No. of projects scrapped/cancelled
20	Udupi	11.95	10.16	4.60	4.31	132	26	91	11	4
21	Gadag	8.84	7.52	4.94	3.44	93	30	33	30	0
22	Dharwad	7.95	6.76	6.94	3.04	128	2	20	106	0
23	Mandya	7.33	6.23	6.56	3.88	107	71	6	30	0
24	Haveri	6.70	5.70	7.88	1.74	122	9	12	99	2
25	Davanagere	6.34	5.39	5.32	5.10	14	4	10	0	0
26	Vijayapura	5.46	4.64	4.49	2.29	33	7	6	20	0
27	Shivamogga	3.13	2.66	0.57	0.28	19	0	10	9	0
28	Mysuru	2.64	2.24	1.77	0.10	8	6	1	1	0
29	Kodagu	1.58	1.34	0.67	0.05	14	1	1	12	0
30	Bidar	1.86	1.58	0.48	0.00	9	0	0	9	0
31	Yadgir	1.41	1.20	0.37	0.31	11	0	11	0	0
Covid -19 Activities Amount Spent up to November-2022					204.52					
Grand Total		3690.24	3136.71	3758.57	1670.97	10032	2327	4601	2132	972

7.3.12 Rule 18 of DMF Amendment Rules 2018

- 10% of the fund is earmarked for endowments purpose (as amended on 08.03.2018) after closure of mining activity in the affected areas.
- 5% of the funds from DMF is earmarked for administrative purpose, out of which 4% is to be utilized for the administrative purpose at the District level and remaining 1% is to be transferred to the Director, Mines and Geology Department for the maintenance of the State Level Monitoring and Evaluation Cell and to meet the administrative expenses.
- Remaining 85% shall be utilized for implementation of projects and schemes prescribed under Pradhan Mantri Khanij Khsethra Kalyan Yojana (PMKKKY) in the ratio of 60:40, for high priority areas and other priority areas, respectively.

The following are the high priority areas (60%) for utilization of funds:

1. Drinking Water Supply
2. Environment preservation and pollution control measures
3. Health Care
4. Education
5. Welfare of Women and Children
6. Welfare of Age old and disabled people
7. Skill development
8. Sanitation

The following are other priority areas (40%):

1. Physical infrastructures
2. Irrigation
3. Energy and Watersheds developments
4. Other measures for enhancing environmental quality in mining area

7.3.13 Combating Covid – 19:

Government of India order dated:28.03.2020 and 25.08.2021, provision has been made for purchase of necessary medical equipment, medicine and oxygen machine and cylinder etc. to prevent the spread of Covid-19 virus. Accordingly letter dated 28.03.2020 and 31.03.2021, 30% of the balance amount of DMF fund can be utilized for prevention of Covid-19 virus.

Details of the schemes undertaken as per Pradhan Mantri Khanij Khsethra Kalyan Yojana Guidelines and Rule 18 (3) of DMF T 2016 are given in the **Table 7.22**.

Table 7.22: Details of schemes implemented under Pradhan Mantri Khanija Kshetra Kalyan Yojana from 2015-16 to 2022-23 (Nov-2022) (Rs. in Crores)

Sl. No.	Details of projects under implementation	Number of Projects	No. of projects completed	Action Plan Approved Amount	Amount spent
1	Drinking water supply	1,353	637	551.98	131.18
2	Education	3,333	1,593	573.60	306.60
3	Energy & water shed development	349	229	82.15	45.38
4	Environment prevention and pollution control measures	158	39	88.57	40.64
5	Health care	602	237	475.49	209.99
6	Irrigation	80	43	98.36	43.54
7	Any other measures for enhancing environmental quality in mining district	127	26	56.35	25.76
8	Physical infrastructure	1,820	768	1,034.38	501.39
9	Sanitation	516	204	144.07	59.17
10	Skill development	642	202	61.44	32.77
11	Welfare of aged and disabled persons	129	82	30.26	14.64

Sl. No.	Details of projects under implementation	Number of Projects	No. of projects completed	Action Plan Approved Amount	Amount spent
12	Welfare of woman & children including on their nutrition	917	541	134.19	55.39
13	Yet to decide (6 Districts)	6	0	427.73	0.00
COVID 19 Expenditure up to 31st November-2022					204.52
Grand Total		10,032	4,601	3,758.57	1,670.97

7.3.14 Comprehensive Computerization of Mineral Administration:

The mineral administration of the Department of Mines and Geology is computerized through the ILMS software. To track all mineral transport vehicles from the centralized tracking platform, government has given permission to develop the One State One GPS software. Action has been initiated to develop the software, same will be implemented within 3 months.

Steps have been taken to integrate weigh bridges of stone crusher units in ILMS software to prevent leakage of royalties and to implement ILMS-2.0 with modern technology and innovative facilities.

The Integrated Lease Management System registration details for the year 2021-22 and 2022-23 up to December are given in the **Table 7.23**.

Table 7.23: The ILMS Registration details of Major Mineral

Particulars	2021-22	From 01.04.2022 to 27.12.2022
Total No of Leases	1	1
Total no of Beneficiation plant	1	2
Total no of Weighbridge	13	32
No of weighbridge integrated	13	27
Total no of buyers	556	419
The ILMS Registration details of Minor Mineral		
Total No of Leases	484	444
Total no of Crushers	280	176

7.3.15 As per the order of the Hon'ble Supreme Court in WP No:562/2009 dated:20.05.2022, the following changes have come into force.

1. Disposal of iron ore produced by mining lease holders is exempted from auction through Monitoring Committee.
2. Mining lease holders are free to sell the iron ore produced to the mineral based industries in the market/long term agreements.

3. Mining lease holders can export the iron ore.
4. The iron ore available in the mining lease area and stockyard can be disposed without auction.

In view of the above order of the Hon'ble Supreme Court, the State Government has issued a revised guidelines vide letter dated:23.06.2022 and accordingly permits are being issued to the lease holders for export and sales to the mineral based industries.

In view of the above, the dispatch of iron ore sold through e-auction from the Monitoring Committee appointed by Hon'ble Supreme Court is compiled till 20.05.2022 (including the year 2020-21, 2021-22) are shown in the **Table 7.24**.

Table 7.24 : e-Auction details of Iron Ore

Sl. No.	Particulars	2020-21	2021-22	2022-23 (01.04.2022 to 20.05.2022)
1	e-auctioned Quantity	29.222 MMT	33.380 MMT	3.162 MMT
2	Material value of e-auctioned iron ore	8194.66 Cr	13344.85 Cr	1237.03 Cr
3	Royalty @ 15% paid to DMG	1218.86 Cr	1983.45 Cr	235.97 Cr

7.3.16 Implementation of R&R Plan for mining-affected districts:

As per the Hon'ble Supreme court orders dated:05.08.2011 and 26.08.2011 in S.L.P (civil) No. 7366 & 73-67/2010 & WP(C) No. 562/2009 the State is committed to develop and implement suitable Reclamation and Rehabilitation (R&R) plans for mining affected districts of Bellary, Chitradurga and Tumkur. The State Government has assigned this task to the Indian Council of Forestry Research and Education (ICFRE). The main objective of the project is to prepare R&R plan and to implement the plan after the approval of mining leases by the Central Empowered Committee (CEC). Based on ICFRE's R&R plans, the Central Empowered Committee (CEC) has approved R&R plans for 97 out of 98 R&R plans submitted by ICFRE ('A' & 'B' category mines). ICFRE has prepared R&R plans of 28 'C' category mines till date (Out of them, 25 are approved by CEC). The Hon'ble Supreme Court in its order dated:20.04.2012, has directed the Ministry of Environment and Forests to re-visit the statutory clearances earlier granted by it in the light of R & R Plan and in its Order dated 03.09.2012, 28.09.2012 & 18.04.2013 has allowed mining operations in category 'A' and category 'B' mines to resume mining operation after the clearance of the R&R plan by CEC and after obtaining other statutory clearances from various organizations.

7.3.17 The broad objectives/parameters of R&R plan are as under:

1. To carry out time bound implementation of R & R plan in the area under illegal mining by way of mining pits, over burden/waste dumps etc. outside the sanctioned lease area as well as within the lease area.
2. To ensure scientific and sustainable mining after taking into consideration the mining resources assessed to be available within the lease area as per IBM and CEC approval.
3. To ensure environment friendly mining and related activities and complying with the various standards stipulated under the various environmental /mining statues e.g. air quality, noise / vibration level, water quality, scientific over burden/waste dumping, stabilization of slopes etc.

4. For achieving 2 and 3 above, fixation of permissible annual production.
5. Regular and effective monitoring and evaluation.

ICFRE has submitted 98+28 (i.e A, B + C category mines) Reclamation and Rehabilitation (R & R) reports on mining leases. The permissible production for all mining leases is 51.8619 MMTs of Iron Ore per annum (after enhancement considered by CEC) and 0.487 MMTs of Manganese ore per annum. Hitherto CEC has approved R & R plans for 97 (A+B) mines.

The production limit is going to be revised as and when ICFRE submits its R & R for additional A,B,C categories of mines or production cap for existing mines are getting enhanced after due approval of CEC.

7.3.18 New Initiatives by the State Government

In order to formulate the Karnataka Mineral Policy 2021-2026 keeping in mind the objectives and the future target set out by the department, the Government had constituted a committee under the chairmanship of Mr. K.N Srivatsav I.A.S., (Retd) comprising the subject experts and resource persons vide order No: CI 69 MGS 2021 Bangalore, Dated: 08.07.2021. The said committee has submitted a report to the Government on 14.07.2022 after having several meetings.

A cabinet sub-committee has been constituted on 16.11.2021 under the Chairmanship of Sri. Achar Halappa Basappa, the Hon'ble Minister of Mines and Geology to review and make suitable recommendations to the cabinet on the simplification of the rules to enhance the availability of M-Sand and building stone. Finalization of draft Karnataka Minor Mineral Concession Amendment Rules based on the recommendations of the Cabinet Sub-Committee is under progress.

The Government intends to find solution for many problems faced by the mining industry and promote environmental friendly, systematic, scientific, sustainable and safe mining practices including skill development for those engaged in mining activities by setting up a center of excellence "School of Mines" in the State in collaboration with the mining industry. In this regard, the committee formed under the chairmanship of Prof. H. P. Kincha, retired Vice Chancellor has submitted a report to the Government. Accordingly, the Government has constituted a committee for further implementation measures.

The DGPS-Drone survey of the quarry leases has been initiated with the assistance of the Karnataka State Remote Sensing Application Center for scientifically assessing the quantity of building stone extracted from the quarry leases to avoid the revenue loss to the State exchequer. In this regard DGPS-Drone Pilot Survey Project with respect to 34 building stone quarry leases over an extent of 121.03 acres in survey no: 59 and 60 of Sulivara village, Bengaluru south taluk, Bengaluru Urban district has been carried out. Upon the success of the pilot survey, work order has been issued to Karnataka State Remote Sensing Application Center on 24.11.2022 to carry out the Drone/DGPS survey of building stone quarry leases of all the districts in the State to freeze the existing ground level (Reduced Level).

7.3.19 Knowledge Partner

In view of improve the organizational restructuring, mineral governance and mineral exploration in the department, M/s.Pricewaterhouse Coopers Private Limited (PwC) has

been engaged through tender to assist/provide services as a knowledge partner. The overall project cost is of Rs.135.00 lakhs (excluding tax) with the following works.

- 1 To design and implement a vision and strategic action plan for minerals exploration and value addition in Karnataka State.
2. To scientifically assess and identify quality and quantity of various minerals on high resolution maps. Based on that invite strategic global bids to extract and make value addition within Karnataka state.
3. Develop strategic plan and handhold it's implementation for organizational restructuring of the Department of Mines and Geology, enable its high performance and capacity building for complete digital governance.
4. Implementation of Single Window System for disposal of the application for grant of Mining/Quarry lease and also vetting of State Mineral Policy 2021-26.
5. Modalities to be adopted for auction of limestone blocks by considering the nationwide auction of limestone blocks.
6. Assessment of demand and supply of limestone mineral and capacity of existing industries in Karnataka (District wise).
7. Strategy to be adopted in auctioning the Limestone blocks in order to attract investments by new industries.
8. Pro's and con's of composite license and mining lease auction of Limestone in the State.
9. Viability of investment on limestone exploration in the state and resulting in its successful auction.
10. Handhold support for Establishment of School of Mining.

7.3.20 Mineral Law amendments by Central Government after 31.03.2021

- ❑ Minerals (Evidence of Mineral Contents) Second Amendment Rules, 2021 Dated:14.12.2021
- ❑ Mineral (Auction) Fourth Amendment Rules, 2021 Dated:14th December, 2021
- ❑ Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession (Second Amendment) Rules, 2021 Dated:8th April, 2021
- ❑ Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession (Third Amendment) Rules, 2021 Dated:10th June, 2021
- ❑ Rescission of the Mineral (Non-Exclusive Reconnaissance Permits) Rules, 2015 Dated: 25.th June, 2021
- ❑ Rescission of the Minerals (Transfer of Mining Lease Granted Otherwise than through Auction for Captive Purpose) Rules, 2016 Dated: 2nd November, 2021
- ❑ Rescission of the Mineral (Mining by Government Company) Rules, 2015 Dated: 2nd November, 2021

- ❑ The Mineral (Auction) Third Amendment Rules, 2021 Dated: 2nd November, 2021
- ❑ The Mineral Conservation and Development (Amendment) Rules, 2021 Dated: 03.11.2021.
- ❑ The Minerals (Other than Atomic and Hydro Carbons Energy Mineral) Concession (Fourth Amendment) Rules, 2021 Dated:2.11.2021
- ❑ The Mines and Minerals (Contribution to District Mineral Foundation) Amendment Rules 2021 Dated: 25.06.2021.
- ❑ The Minerals (Evidence of Mineral Contents) Amendment Rules, 2021 Dated:18.06.2021
- ❑ The Mineral (Auction) Second Amendment Rules, 2021 Dated:18.06.2021

7.3.21 Salient features of Karnataka Minor Mineral Concession (Amendment) Rules, 2021 dated:15-11-2021

- ❑ Provision has been made by removing the specified time limit for conversion of cases that have been granted for stone quarrying into licenses in patta lands.
- ❑ If minor minerals are available in the major mineral mining lease area, the Provision has been made in the rule to allow for mining and transportation of such minor minerals for the duration of the lease of the major mineral.

7.3.22 Implementation of New Sand Policy-2020

Towards ensuring the availability of sand to the common people at an affordable price, the Government has formulated the new Sand Policy -2020. In this respect, the Karnataka Minor Mineral Concession Rules, 1994 has been amended on 01.12.2021, and as per Karnataka Minor Mineral Concession (Amendment) Rules, 2021 amended rule action has been initiated to implement. The details are as follows;

- ❑ A total of 353 sand blocks identified in the I, II & III order streams in the year 2021-22 and up to November 2022-23, out of which 300 sand blocks have been notified and work order has been issued for extraction of sand in 246 sand blocks. 65 sand blocks are in operational and disposed 24,082 MT of sand through Grampanchayat with collection of Rs.22.22 lakhs.
- ❑ 94 sand blocks identified in higher order streams and river course out of which 56 sand blocks has been given to Hutti Gold Mine Limited and 38 sand blocks has been given to Karnataka State Mineral Corporation Limited. So far, 13 blocks have received environmental clearance, sand mining will be started and will be supplied to the public.
- ❑ A total of 1,07,450 MT of sand has been removed by Karnataka State Minerals Corporation in the year 2021-22 and upto November 2022-23 at Adyapadi in Mangalore taluk and Shambhur dam in Bantwala taluk and Kindi dam in Bantwadi taluk of Udupi district which is available with silt in the backwater, out of which 85,658 MT sand has been supplied to public and government works through online booking and collected Rs. 2.99 crore.

- ❑ In the year 2021-22 a total of 30.04 lakh MT of sand has been removed and transported from 239 sanctioned sand blocks through tender-cum-auction, 118 sanctioned sand blocks in patta land, 21 sand blocks granted for government works, sand reserve areas under Gram Panchayat, sand extraction available with silt and clearing of sand bars in river beds of CRZ areas. From this sand, Rs. 90.23 crore has been collected which includes Royalty, additional periodical payment, average additional periodical payment and District Mineral Foundation Fund.
- ❑ In the year 2022-23 upto November a total of 20.87 lakh MT of sand has been removed and transported from 179 sanctioned sand blocks granted through tender-cum-auction, 125 license granted in patta land, 14 sand blocks granted for government works, sand reserve areas under Gram Panchayat, sand extraction available with silt and clearing of sand bars in river beds of CRZ areas. From this sand, Rs.56.23 crore has been collected which includes Royalty, additional periodical payment, average additional periodical payment and District Mineral Foundation Fund.

To maintain the ecological balance and adverse effect on groundwater, Government has taken the measures to promote/increase the M-Sand production and utilization as an alternate to river sand. Presently, M-sand is being produced in the 30 districts of the state. By end of November-2022-23, 10.73 million MT of M-Sand has been produced against annual target of 30 million MT.

Way forward

- ❑ Setup processing industries in Ballari, Kalaburagi, Raichur and neighboring districts to capitalize on high level of mineral production from the districts
- ❑ Develop gem and jewellery industry to capitalize on the large production from the state and generate employment opportunities in districts like Kolar, Chikballapura
- ❑ Adopt advanced integrated exploration techniques to thoroughly explore deeper deposits or deposits in the complex geological environment, including deposits concealed in the offshore zone; State-of-the-art drilling techniques with sophisticated rigs (such as RC) for three-dimensional sub-surface delineation of ore body as well as for directional drilling and underground exploratory drilling are needed to be employed.
- ❑ Technology up-gradation in underground non-ferrous metal mining in respect of sub-level stopping methods for improving productivity.
- ❑ Modernize existing processes by adoption of automation, robotics, and industry 4.0 technologies will help to keep exploration, mining operations safe, optimize production, scheduling and material flow and track exploration and maintain mining performance in real times.
- ❑ Develop Geo -Tourism Hub and Geo -Industrial park in Kolar, Hutti & Chitradurga etc.
- ❑ Setup a Museum showcasing aspects of ancient to modern mining methods, archeological aspects and objects across key sites

7.4 CLIMATE CHANGE AND MITIGATION MEASURES

Strengthened as Karnataka State Strategic Knowledge Centre for Climate Change with the support of Government of Karnataka & Government of India, Department for Climate Change (DCC), EMPRI has taken forward several research activities/programs during April-December 2022 as mentioned below:

7.4.1 Research Activities

A. On-going projects

1. District wise information brief on climate change impacts, adaptation and mitigation strategies for Karnataka

The objective of the project is to prepare information briefs for each district of Karnataka on the impacts of climate change on Agriculture, Health, Water resource and Forest sector, including adaptation and mitigation strategies. Information brief contain general details of the district, case study on recent extreme climate event, impacts of climate change, adaptation and mitigation strategies that are followed in that particular district. These information briefs serve as a ready document for the District Officials to take quick decisions related to climate change.

2. Exploring the potential of terrestrial indoor plants for moderating the effect of climatic conditions in urban areas

The objectives of the project were to measure the physiological performances of different terrestrial indoor plants, assess the plant functional variability and biochemical performances, identify the high carbon sequestering indoor species and build the evolutionary relationship with the assimilation rate and protein-coding regions of RuBisCO. The drafting of the report is under progress.

B. Completed Projects

1. Impact of Climate Change on Sericulture in Karnataka and Implementation of Adaptation and Mitigation Technologies at Farmers Level

The current study was to see whether on a temporal scale the climate change (long term change in 30 years) could really impact the sericulture. Overall analysis on a long term scale shows that there is significant relation between rainfall / temperature and cocoon productivity. There are many interventions and delineating the true impact of climate change practiced by the farmers.

2. Estimation of Photosynthetic potential of dominant Mangrove species in different osmotic environments

The study was undertaken to estimate the photosynthetic potential of dominant mangrove species in different osmotic environments in Udupi district of Karnataka. *Rhizophora mucronata* was the dominant species and is well-adapted to saline environment. This study recommends planting different species of mangroves based on its salt tolerance and adaptations, which would be attributed for waste disposal into the marine water bodies.

3. Exploration of Microalgae for Carbon Capture, Biomass Production and Bioremediation

The present study has isolated a total of six microalgal cultures viz., Chlamydomonas, Oocystis, Microcystis, Eudorina, Chlorella and Chrysocapsa from different sources and tested for their growth efficiency using different solid and liquid media under the light intensity of $45 \mu \text{ mol m}^{-2} \text{ s}^{-1}$ and at temperature $28 \pm 2^\circ\text{C}$.

C. New Projects

New project is initiated in collaboration with IIT Hyderabad on “Emission Reduction and Energy Economy by electric vehicle on Indian Roads – Driving Cycle based study”. The main aim of the study is to estimate the emission reduction potential within a region through a substitution of conventional fuel driven vehicles with electric vehicles. The study will help to understand the impact of EV penetration on vehicular emission and will provide a sound basis for more detailed environmental assessment of E-mobility.

7.4.2 Projects under National/International Funding

Sanctioned a two year project on “Achieving Net Zero with development and other Co-benefits” focusing on short lived climate pollutants (SLCP) in collaboration with Vasudha Foundation India and The Energy Research Institute (New Delhi).

7.4.3 Report on State Action Plan

A report on State Action Plan on Air Pollution for Karnataka (SAPAP-K) is submitted to Government of Karnataka.

7.4.4 Webinar/Workshop

A webinar on the Story of Ozone was conducted on 16 September 2022 and the speakers from Department for Climate Change have made presentations.

Way forward

Karnataka State Action Plan on Climate Change (KSAPCC) Version 2.0 developed needs to be implemented through sector-specific projects in the area of adaptation and mitigation for disaster risk reduction, as the state is already experiencing increased occurrence of floods and droughts and aspires to enhance use of renewable energy, energy efficiency, water management, agricultural resilience, afforestation, efficient waste management and use of public transport. Further, the Green Index Portal developed to evaluate environmental compatibility of governmental schemes & programs for a climate resilient developmental planning (<https://greenindex.karnataka.gov.in/#/login>) may be considered for adoption in the budget development process in the state. Furthermore, mainstreaming the Karnataka State Climate Change Strategic Knowledge Portal (KSCCSKP) (<https://www.karccc.com>) to disseminate the information and data on the climate related aspects of the state of Karnataka by creating awareness among stakeholders like academicians, researchers, policy makers and the public will serve.

7.5 KARNATAKA STATE NATURAL DISASTER MONITORING CENTRE

Karnataka, one of India's eighth largest state in terms of geographical area (19.1M. sq.km) is home to 6.11 crore people (2011 Census) accounting for 5.05% of India's population. It

has the net cultivated area (2010-11) of 10.5 M Ha, net irrigated area of 3.49 M Ha and net rainfed area of 7.01M Ha. Due to both spatial and temporal variation in rainfall, hydro-meteorological disasters like droughts and floods occur simultaneously in the different regions of the state. Droughts are more common than the other disasters in the state thus affecting rain-fed Agriculture production system. The State also has huge arid and semi-arid land and is highly vulnerable to drought. In the last 15 out of 20 years (2001-2020), parts of the State have been subjected to severe drought. Some of the Talukas in the State have witnessed drought for more than five consecutive years. Devastating floods, hailstorm, Lightning and Thunderstorms has hit Karnataka during pre-monsoon season frequently causing huge damage to standing crops, especially horticulture crops.

Losses due to Natural Calamities in the state for the past one Decade is detailed in **Table 7.25**.

Table 7.25: Details of losses due to Natural Calamities in the state from 2012 to 2022
(Rs. in Crores)

Sl. No.	Details of Natural Calamities	Estimated Loss	As per SDRF Norms
1.	Due to Flood during July to 12th September 2022	12,406.65	1,944.44
2.	Due to Flood during 2021	18,293.10	2,123.50
3.	Due to Flood during August-20 to October-20	23,764.86	2,261.38
4.	Due to Flood during August-19	35,008.83	2,444.68
5.	Due to Flood during 2018	4,262.09	722.70
6.	Due to Drought during Kharif 2018	16,662.48	2,434.00
7.	Due to Drought during Rabi 2018	11,384.47	2,064.30
8.	Due to Drought during Kharif 2016	17,193.00	4,702.54
9.	Due to Drought during Rabi 2016	7,097.89	3,310.83
10.	Due to Floods during 2016	2,485.06	386.44
11.	Due to Drought during 2015	15,636.07	3,830.84
12.	Due to Drought during Rabi-2015	6,733.14	1,417.14
13.	Due to Hailstorm during April-2015 to May-2015	711.32	151.28
14.	Due to Drought during 2014	3,589.07	779.20
15.	Due to Floods during 19th to 30th August 2014	615.39	388.29
16.	Due to Drought during 2013	1,719.29	1,014.15

Sl. No.	Details of Natural Calamities	Estimated Loss	As per SDRF Norms
17.	Due to Floods 2013	2,742.14	610.84
18.	Due to Hailstorm during Feb-2014 & March-2014	888.29	963.28
19.	Due to Drought during 2012	11,489.00	11,489.00
Total		1,92,682.14	43,038.83

7.5.1 Weather Monitoring Network:

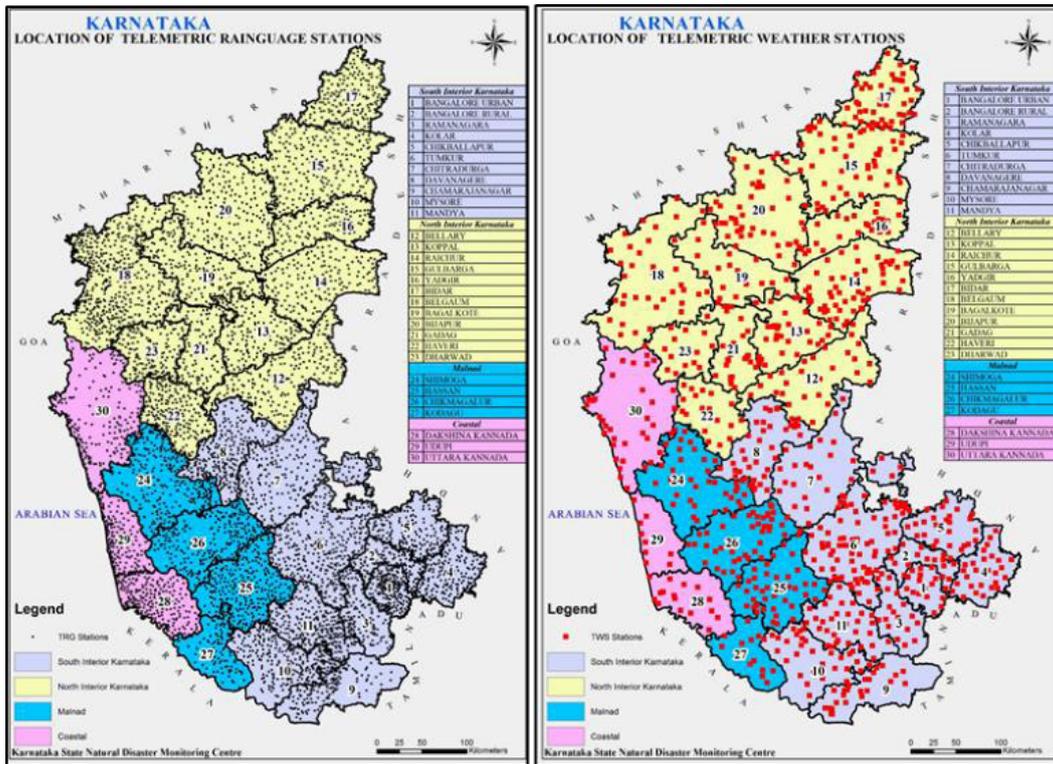
Karnataka State Natural Disaster Monitoring Centre (KSNDMC), has taken up pioneering and path-breaking initiatives towards monitoring natural disasters and risk reduction. KSNDMC has established a network of GPRS enabled and solar-powered Telemetric Rain Gauges at all the 6,500 Gram-panchayaths (25 sq. km each) and 923 Telemetric Weather Stations at all the 747 Hoblis (sub- Tehsil : 200 sq. km each) and 176 Micro-Watersheds in the state. The weather data comprising Temperature ($^{\circ}\text{C}$), Relative Humidity (%), Wind Speed (m/s), Wind Direction (Degrees), Rainfall amount (mm) and intensity (mm/hr) data has been collected at every 15 minutes through these weather monitoring stations. The density of weather monitoring stations network is the highest and first of its kind in the country. Also, the temporal resolution of the data collected (96 data points a day/station) through this network of stations is a need of the hour for the researchers to develop simulations and related advisories. The monitoring network can capture the highly erratic distribution of rainfall and weather parameters both in terms of space and time, in turn it is helping the decision makers to take a timely decision at the micro level.



Telemetric Rain gauge

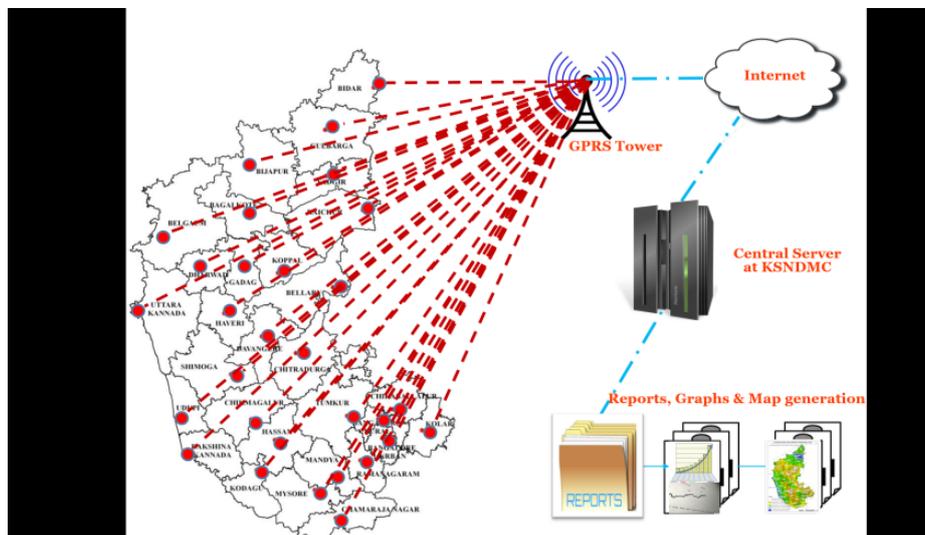


Telemetric Weather Station



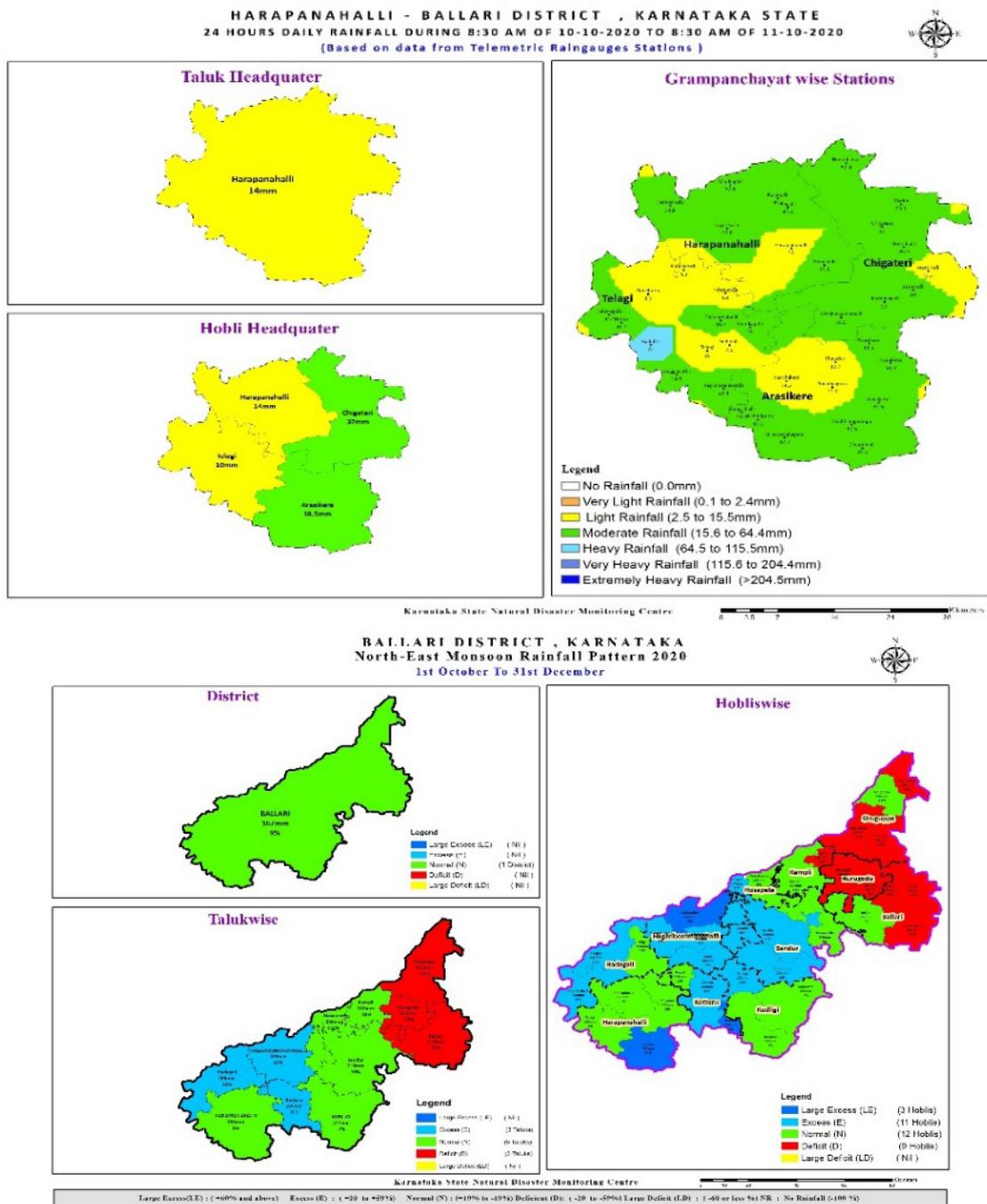
Map Depicting the Network of TRG and TWS Stations In Karnataka

The Centre has established a state-of-the-art facility to collect data at a very high spatial and temporal resolution, data analysis, information and advisory generation and dissemination to the Stakeholders at a near-real-time. Necessary computer/web applications have been indigenously developed to collect, store, analyse and transmit reliable, accurate and seamless data with least manual intervention. As a result, the time interval between data collection to decision making is almost at a near-real-time. Based on the near real-time data collected, the Centre identifies and maps the hazard vulnerable areas, prepares reports with advisories and disseminate to stakeholders.



7.5.2 Rainfall disparity in Micro Level

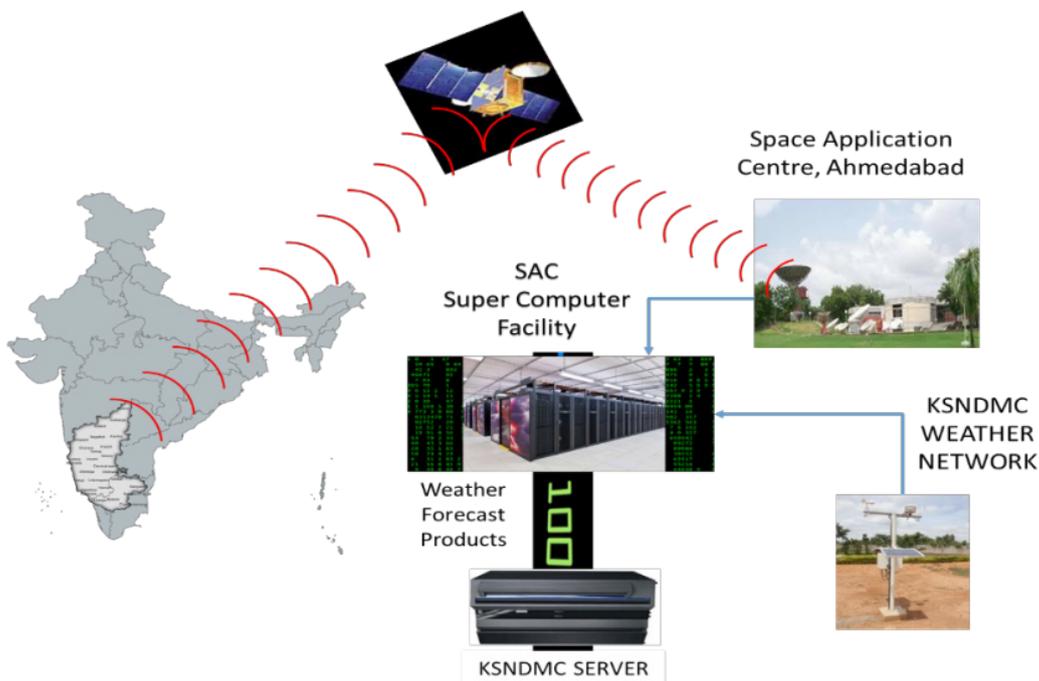
The spatial distribution of rainfall is varies with various factors and local weather phenomena. The collection of rainfall data at district, taluk and hobli level and it can extended to micro level, it's always there is large spatial difference with accuracy. The collection of rainfall data at gram panchayat level a smaller administrative unit of state help to take priority measure to manage and mitigate the disasters. The spatial variation of rainfall data at various district, taluk, hobli and gram panchayat level is shown in below Figure.



Spatial variation of rainfall data at various

7.5.3 Weather Forecast

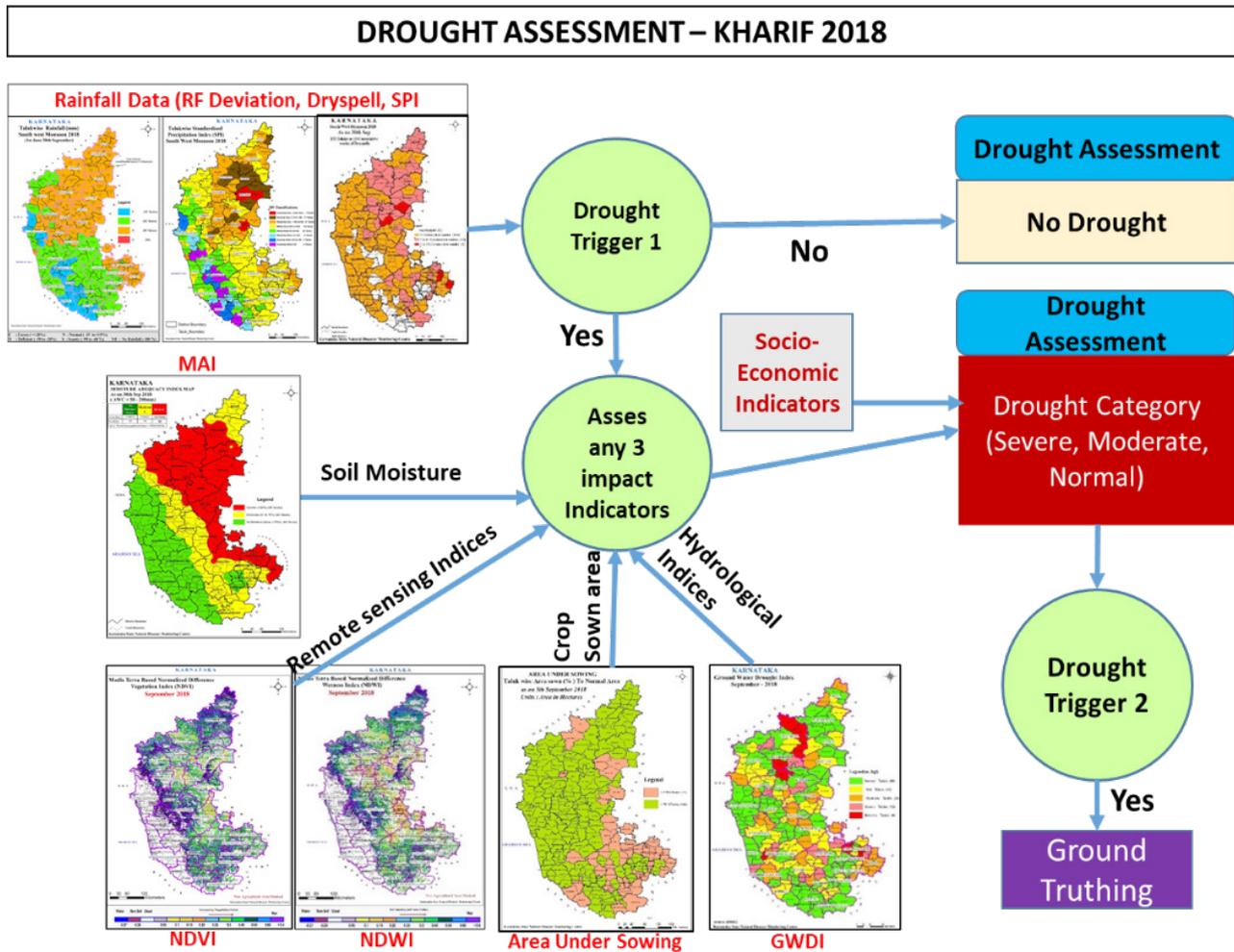
Weather forecast at very high temporal and spatial resolution is another critical segment that enables to generate effective Meteorological advisory. The KSNDMC generates Rainfall / Weather Forecast for the State every day in collaboration with national agencies like Space Application Centre (SAC), Ahmedabad and Satish Dhawan Space Centre (SDSC-SHAR), Sriharikota and Indian Space Research Organization (ISRO). Weather forecasts are generated regularly with three different time scales, viz., Short term, Medium term and Long term. The weather data observed on the ground is also ingested into some of these weather forecasting models and it has been to be useful in correcting and improving the Model output over the years.



Gram panchayat level next 3 days forecast model

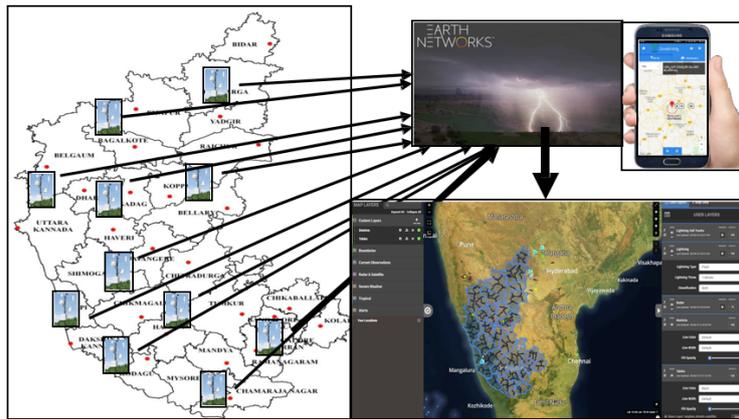
7.5.4 Disaster monitoring at KNSMDC

1. **Drought Monitoring:** The near-real-time data collected through the network of station is being used for monitoring and assessing Drought indicators at Hobli level in the state on weekly basis. KSNDMC is monitoring and guiding the state executives by providing technical reports and data support for sub cabinet committee, weather watch committee, and state-district level meetings. The centre assessing the drought condition and declaration of drought prone taluks as per revised drought manual 2019 based on various drought indicators of rainfall deficiency, dry spell, Moisture Adequacy Index, Agricultural crop Status, remote sensing based NDVI, NDWI & VCI Index and Surface & Groundwater Status on Standard Weekly basis during each Season. Centre is also preparing the detailed report on drought conditions and submit the memorandum for the central to seek financial support to take emergency drought mitigation measures.



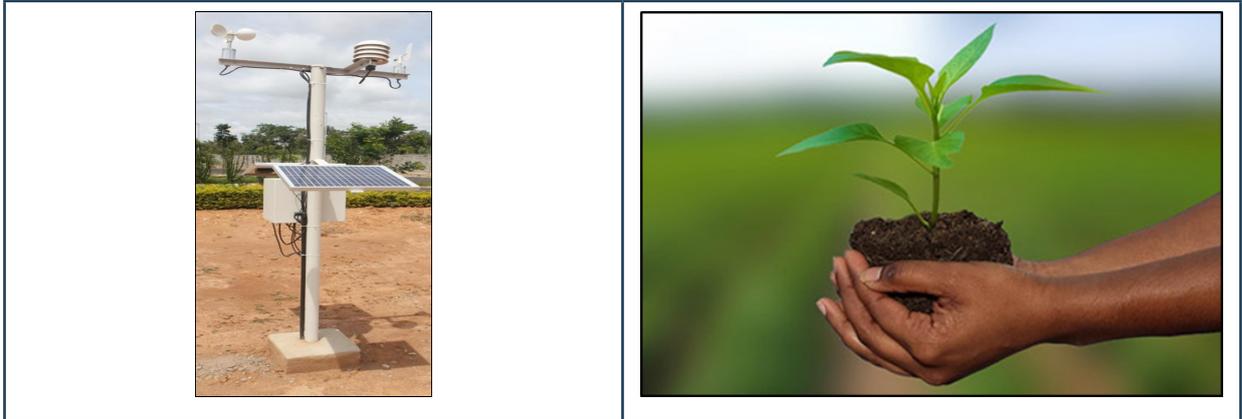
2. **Flood Monitoring :** Flood is one of the most common and recurring Natural Disasters in Karnataka, in the last decades. Large parts of North Interior Karnataka, which is under Krishna River basin is prone to severe floods. Similarly, the Malnad region and parts of South Interior Karnataka, which are in the Cauvery river basin, are also prone to floods and associated with landslides/mudflows. Heavy and high-intensity rainfall during the Monsoon season has been causing floods in one or the other parts of the state resulting in loss of life, livelihood, property, enormous damage to the standing crops, destroying critical infrastructure. The State is currently faced 4 consecutive year of floods. Considering the recent flood severity over the state a dedicated Flood Forecast Cell created at KSNDMC.
3. **Urban Flood Management :** An integrated Urban Flood Model for Bangalore City (UFM) is being developed by Karnataka State Natural Disaster Monitoring Centre (KSNDMC) in collaboration with Indian Institute of Science (IISc) Bangalore, to manage floods in the city. An efficient forecast system with a well-established network of 100 Telemetric Rain gauge Sensors and 12 Telemetric Weather Stations with integrated two-dimensional flood model, along with 26 Water Level Sensors, provides information on the spread of the floodwater (vis- à-vis flood inundation). An automated information dissemination Web Portal www.varunamitra.karnataka.gov.in and a Mobile app named Bengaluru Meghasandesha has been developed to disseminate relevant information to stakeholders.

4. **Thunderstorms and Lightning Monitoring:** Lightning strikes have been causing loss of life and property in Karnataka as well. Apart from the loss of life, there is a huge loss of livestock as well as infrastructure due to lightning strikes in the State every year. To mitigate the losses due to Lightning strikes in the State, the centre has taken up monitoring and early warning through a network of 11 Lightning Detection Sensor stations in the State to provide location-specific Early Warnings to the Government Executives and general public across the State about the Thunderstorms and Lightning strikes.



Thunderstorm & Lightning Network

5. **SEISMIC Monitoring:** To address the Seismicity in the State, KSNDMC has established a Network of 14 VSAT Enabled and Solar Powered Permanent Seismic Monitoring Stations at different vulnerable locations in the State. The data pertaining to these 14 Seismic Stations is being received to the Master Control Facility (MCF) located at KSNDMC, Bengaluru in Real Time through VSAT & GPRS Technologies. Through this Network of Stations in the State, KSNDMC is monitoring Local, Regional and Teleseismic Earthquakes. Technical support in terms of providing Earthquake information through SMS followed by Technical Reports are being provided to the Stakeholders of GoK and the Dam Authorities for taking up mitigation measures accordingly.
6. **Implementing Insurance Schemes:** The high-resolution weather data collected from the ground level has been used for the implementation of Crop Insurance Scheme in the state which is considered as a risk transfer mechanism. The weather data is used at different levels. First, it is used in designing the Term-sheets in case of Restructured Weather Based Crop Insurance Scheme (RWCIS), wherein area-specific and crop-specific term sheets are designed by using high-resolution historical weather data by the agencies. Similarly, the ground-level weather data is also being used by the public for claiming insurance for the damage/loss of property incurred due to weather aberration. Incidences of damage to industrial sheds or the chimneys due to high wind activity are being established and assessed using the weather data collected from the TWS station network. Likewise, damages to the poly-houses installed for floriculture and/or cash crop cultivation are also assessed using the weather data. The observed data from the nearby TWS or TRG station is used to corroborate the incidence of weather aberration beyond a threshold, and accordingly, insurance claims are being settled between the parties.

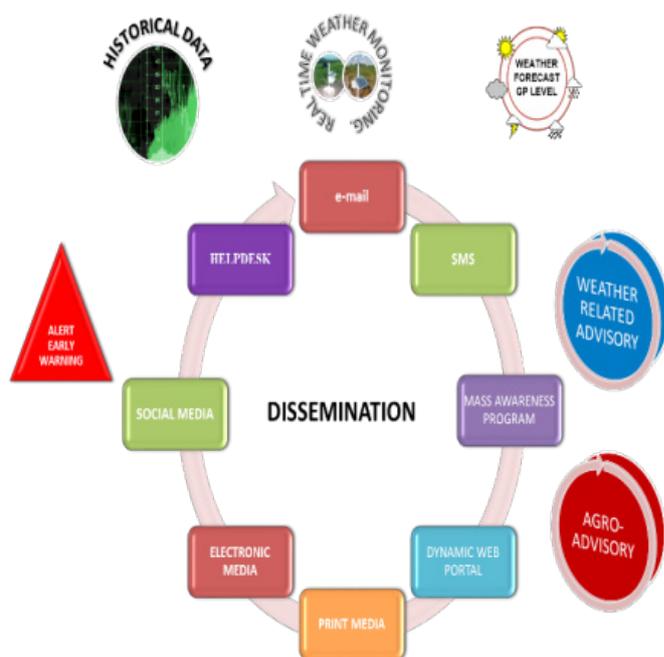


7. **Heatwave:** Heatwave is a condition of atmospheric temperature that leads to physiological stress, which sometimes may cause death. In the past two decades, certain parts, especially the North Interior Karnataka region of our State, have witnessed increasing temperature trends during the March-June period. Consequently, heat stress-related illnesses are also on the rise. In this context, KSNDMC along with KSDMA has developed Heat Wave Action Plan 2022 under the NDMA Guidelines. The Action plan aims to provide a framework for implementing heat response activities, preparedness and mitigation measures in a coordinated manner with various line departments of Karnataka.
8. **Landslide:** Due to incessant and high intensity rainfall in Malnad and Coastal districts of Karnataka caused landslides. The Karnataka witnessed the 4 consecutive years landslide in parts of Malnad and coastal district and massive landslides during 2018 in parts of Kodagu district caused the huge loss of agriculture, horticulture crops, public infrastructure and amenities. KSNDMC framed the action plan and mitigation measures for Landslide risk reduction.
9. **Cyclones:** Cyclones are one of the natural calamities that are formed as a result of temperature and variation wind circulation on the water surface of seas/oceans. Frequent storms are common in India's east coast i.e. Bay of Bengal. The west coast was less prone to cyclones, but in recent years increasing number of cyclones in the Arabian Sea is a matter of concern. In recent years reported cyclones of Taukhte, Yash, Gulab and Asani (2021) and more recently Modus (2022) caused the massive damage of infrastructure, loss crops and public property due heavy rains and winds. Under National cyclone Risk Mitigation Project the Karnataka state taken the strategic actions plans for cyclone risk reduction and management.
10. **Water Resource Management:** The centre has been collecting, updating and maintaining the water resource data sets inflow and outflow details of reservoirs, status of minor irrigation tanks and groundwater level details on weekly and monthly basis. The analysis of water resource and mapping in the state, helps to management and allocation of water resources for irrigation, drinking water supply and management of flood and drought conditions. Also, the center is providing necessary information on river water sharing disputes.
11. **Cloud Seeding:** Drought conditions are common in the state. To alleviate and management of drought conditions the state government initiated the cloud seeding programme during the drought condition to manage soil moisture for early

sowing crops and drinking water scarcity in drought prone areas. The cloud seeding is purely scientific, and depends on stubble formation and climatic factors. Based on the weather condition and forecast the centre delineate the drought prone regions and suggesting the suitable regions for cloud seeding and estimate the incidents of rainfall at gram panchayat level telemetric rain gauges on cloud seeding regions.

- Information Dissemination Mechanism:** Information Dissemination plays an important role in disaster risk reduction. KSNDMC has employed various Dissemination systems to send Disaster-related information through Alerts, Advisories and Early Warnings to all the Government Executives & Communities at Real time. High Spatial and Temporal resolution data thus collected from the ground on various parameters are being converted into information. Subsequently, in conjunction with the weather forecast, the meteorological information is used to generate customized weather Advisories and disseminated to the users. This has enabled the stakeholders at all levels to take appropriate decisions at right time in the domain of Drought Monitoring & Management, Crop Assessment Survey Mechanism, Water Resource Management. Implementing Insurance Schemes and Power generation and Grid load management.

Currently, KSNDMC is providing natural disaster and agricultural development-related information through help desk, general radio service, Very Small Aperture Terminal and other methods. The centre serves agriculture, horticulture, fisheries, transportation, power and electricity sectors, disaster management agencies and other beneficiaries through web-enabled database management, application development and customization. Information is also disseminated to the field level officers of the Department of Agriculture, Horticulture, Animal Husbandry, Sericulture, Water resources, Raitha Samparka Kendras (RSKs), Farmer’s facilitators under Soil Enrichment Program, Krishi Vigyana Kendras (KVKs), and Agriculture Universities, besides Print and Electronic Media.

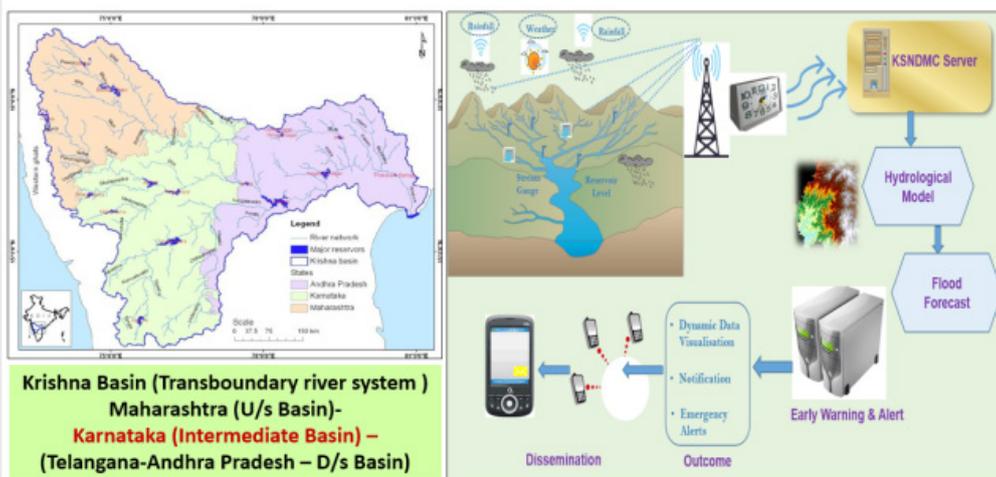


Plan, Centralized Wireless Public Broadcasting System At Vulnerable GPs (EWS), Real Time Decision Support System (RTDSS) for flood early warning system in Krishna River basin - Karnataka. Projects are under progress.

Early Warning System through establishing Centralized Wireless Public Broadcasting System at Vulnerable GPs (EWS)



Real Time Decision Support System (RTDSS) For Flood Early Warning System In Krishna Basin – Karnataka



Krishna Basin in Karnataka (Intermediate Basin) Covers

Total Area: App. 1,13,271 Sq. kms.

Major River Systems: Krishna, Bheema, Malaprabha, Ghataprabha, Bhadra, Tungabhadra,

Major Reservoirs: 6

Districts:18, Taluks: 142 , GPs: 3223

Strengthening of institutional bodies and capacity building in disaster management helps in emergency relief and rescue operations, and protect of public life and properties. Structuring Emergency operation Centre, pre deployment of NDRF, SDRF with necessary rescue equipment's are crucial role in disaster risk reduction. Flood Forecast Cell is established in the centre for localised flood and weather forecast and for reservoir operation during the flood situation Inter-state integrated Reservoir Management in collaboration with central water commission is initiated effective flood management in the state.

Preventive disaster management and monitoring measures can significantly reduce the effects, damage and losses caused by disasters. In this regard, Monsoon Preparedness Meetings, Flood/Weather watch Meetings, Inter-Ministerial Review Meetings are being taken up with various line departments on regular basis to precautionary measures and decision making. The Centre is providing timely information and inputs for the meeting.

The centre preparing and submitting the memorandums to central government seeking the necessary financial assistance for emergency rescue and relief operation due to calamities in the state and providing the technical inputs and reports for inter-ministerial team for evaluation of loss and damages due to various disasters. The Center has developed and implemented Geo-spatial technology-based Karnataka State Disaster Management Information System (KSDMIS), a first in the country, to enable district administrations to register real-time information with geo-stamped verification of loss and damages due to disasters and to carry out relief work with utmost transparency without delay and manual interference.

14. Community Help-Desk “Varuna Mitra”

To disseminate the Agro-Met information, forecast and advisories directly to the farmers, a 24x7 Interactive Help Desk “Varuna Mitra” has been put in place in Karnataka at KSNDC. Some of the unique features of this dissemination model are:-

1. The farmers can get the information on what they need and when they need.
2. Provides Agro-Met Advisories directly to the farmers through interactive telephony in the language and frequency a farmer can comprehend.
3. Information on rainfall, temperature, humidity, cloud cover, wind speed information and
4. forecast is made available (highest spatial resolution in the country at present) at the Gram Panchayat level.
5. The information and Advisories are based on high spatial and temporal resolution ground-level weather observation and same resolution weather forecast.
6. Alerts on extreme weather events, information on reservoir status, streamflow etc., are also made available to the users.
7. Voice recording of each call is used to improve the service and also to address the complaints.

The farmers have been calling Varuna Mitra and collecting customized information pertinent to their respective Gram Panchayats and using the information and advisories

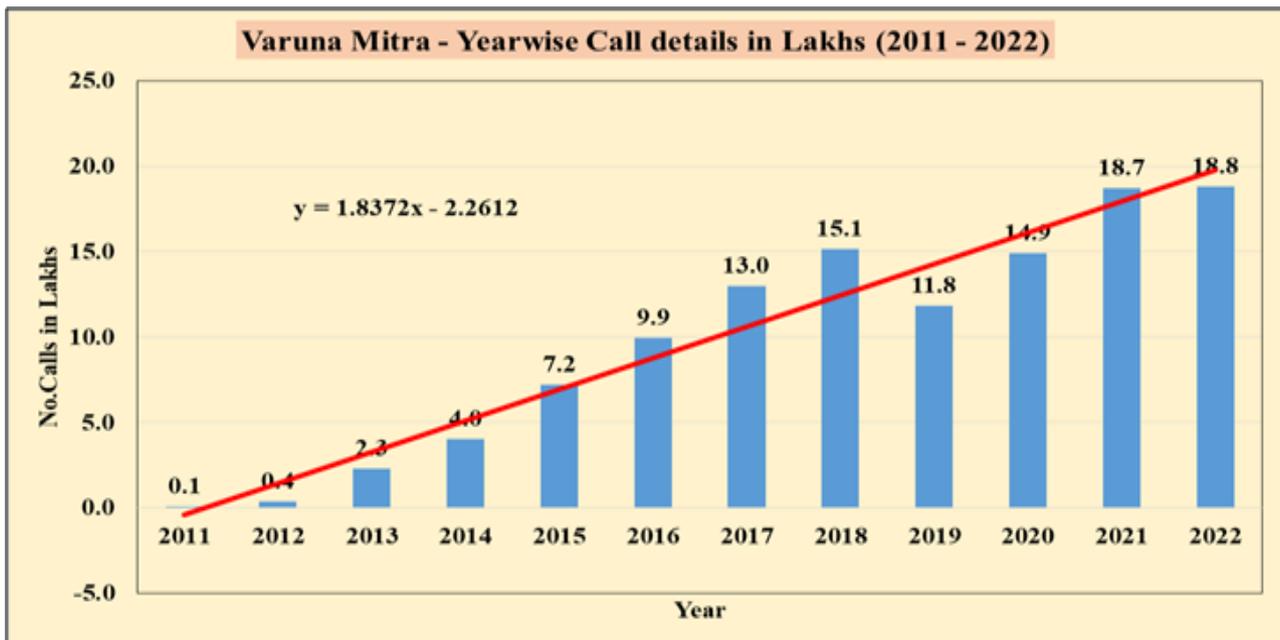
for planning their agricultural activities encompassing land preparation, sowing, inter-crop cultivation, application of fertilizers, spraying pesticides and harvesting. Though it is not a Toll-Free service, the number of calls have been increasing annually and lakhs of farmers are seen to be benefitting from the VARUNA MITRA Services.

7.5.5 Impact Evaluation of 'Varuna Mitra Services'

A team of researchers from the Institute for Social and Economic Change (ISEC), Bengaluru has carried out a study to evaluate and assess the impact of Varuna Mitra help desk services on the farmers. Through multi-stage random sampling technique, the assessment was carried out by directly contacting the farmers in three districts in three different regions with High Rainfall (>1200mm), Moderate Rainfall (600-1200mm) and Low Rainfall (<600mm) based on the annual rainfall which represents 8 of the 10 agro-climatic zones of Karnataka. The farmers who obtained information from Varuna Mitra helpdesk service were randomly interviewed using a pre-tested questionnaire. Apart from farmers, other stakeholders were also interviewed to assess the impact of Varuna Mitra more comprehensively.

In this evaluation, the impact of Varuna Mitra services was assessed on the cost of cultivation, yield, income and post-harvest losses considering two situations, namely, with and without weather information from KSNDCM. Overall impact was estimated by aggregating the stage-wise impact to arrive at per acre and per farm impact by using the information provided by Varuna Mitra. The results showed that the performance of the Helpdesk has been impressive.

This also stood substantiated from the increase in the number of calls since its inception from a low of 0.1 lakh in 2011 to 18.8 lakh in 2022. In terms of the pattern of calls during the drought years, it was found that the number of calls increased with the increase in the number of districts experiencing drought.



Among the queries made about 99.53 per cent were about rainfall and/or weather-related which is a very crucial input for planning or executing agricultural operations and securing the standing crop. The sub-sectoral analysis of the purpose for which the calls were made, it was seen that majority of the farmers sought information relating to agriculture (90.39 per cent), followed by horticulture (8.65 per cent), animal husbandry (0.39 per cent) and sericulture (0.57 per cent). Each farmer fetching information from Varuna Mitra, in turn, shared it with at least 12 farmers in his/her area. A majority of the farmers sought short term rainfall forecast for one to three (1-3) days and indicated a wide range of accuracy levels of these predictions. An overwhelming proportion of farmers (62.50 per cent) indicated that the accuracy of prediction realised was to the extent ranging from 60 to 90 per cent.

Farmers had interacted with Varuna Mitra at different stages of crop cultivation from sowing to harvesting. Of more than 2000 farmers contacted for this exercise, 49 per cent reported a decrease in input cost, 49.70 per cent reported increase in yield, 53 per cent reported an increase in net income and 40 per cent reported decrease in post-harvest losses.

The weather data comprising Temperature ($^{\circ}\text{C}$), Relative Humidity (%), Wind Speed (m/s), Wind Direction (Degrees), Rainfall amount (mm) and intensity (mm/hr) data has been collected at every 15 minutes through these weather monitoring stations.

The density of weather monitoring stations network is the highest and first of its kind in the country.

The weather monitoring network can capture the highly erratic distribution of rainfall and weather parameters both in terms of space and time, in turn it is helping the decision makers to take a timely decision at the micro level.

Based on the near real-time data collected, the Centre identifies and maps the hazard vulnerable areas, prepares reports with advisories and disseminate to stakeholders.

Way Forward

- ❑ To benefit the agricultural and allied sectors in the state, Karnataka State Natural Disaster Monitoring Center is establishing and maintaining a unique network of automated, solar based, remote weather and rainfall measuring instruments in the state to understand the accuracy of variations in climate and rainfall distribution.
- ❑ Attempt has been made to Collect information regarding temperature ($^{\circ}\text{C}$), humidity (percent), wind speed (m/cm) and wind direction (0) from meteorological stations and also rainfall (mm) and intensity (mm/hour) from all rain gauge stations are collected for every 15 minutes / day.
- ❑ Innovative measures have been taken up to provide real-time weather information, maps, reports, warning messages, weather-based agricultural advisory notices to the officials of the relevant government departments and the public and the farming community to help them take necessary precautionary measures and decisions.

- ❑ To determine drought conditions, the Ministry of Agriculture, Ministry of Cooperation and Farmers Welfare, Government of India has brought out the revised Drought Management Manual 2016 which includes scientific criteria for drought determination and aspects of drought management in order to accurately identify drought conditions and take timely remedial measures.
- ❑ In order to determine area drought situation, based on Moisture Deficit Index measures have been taken to give the accurate rainfall and whether data.
- ❑ Measures have been taken to use Satellite based indices to improve the accuracy of drought conditions, sown area, crop growth and crop status etc.,

7.6 WASTE MANAGEMENT IN KARNATAKA: REALITIES AND OPPORTUNITIES

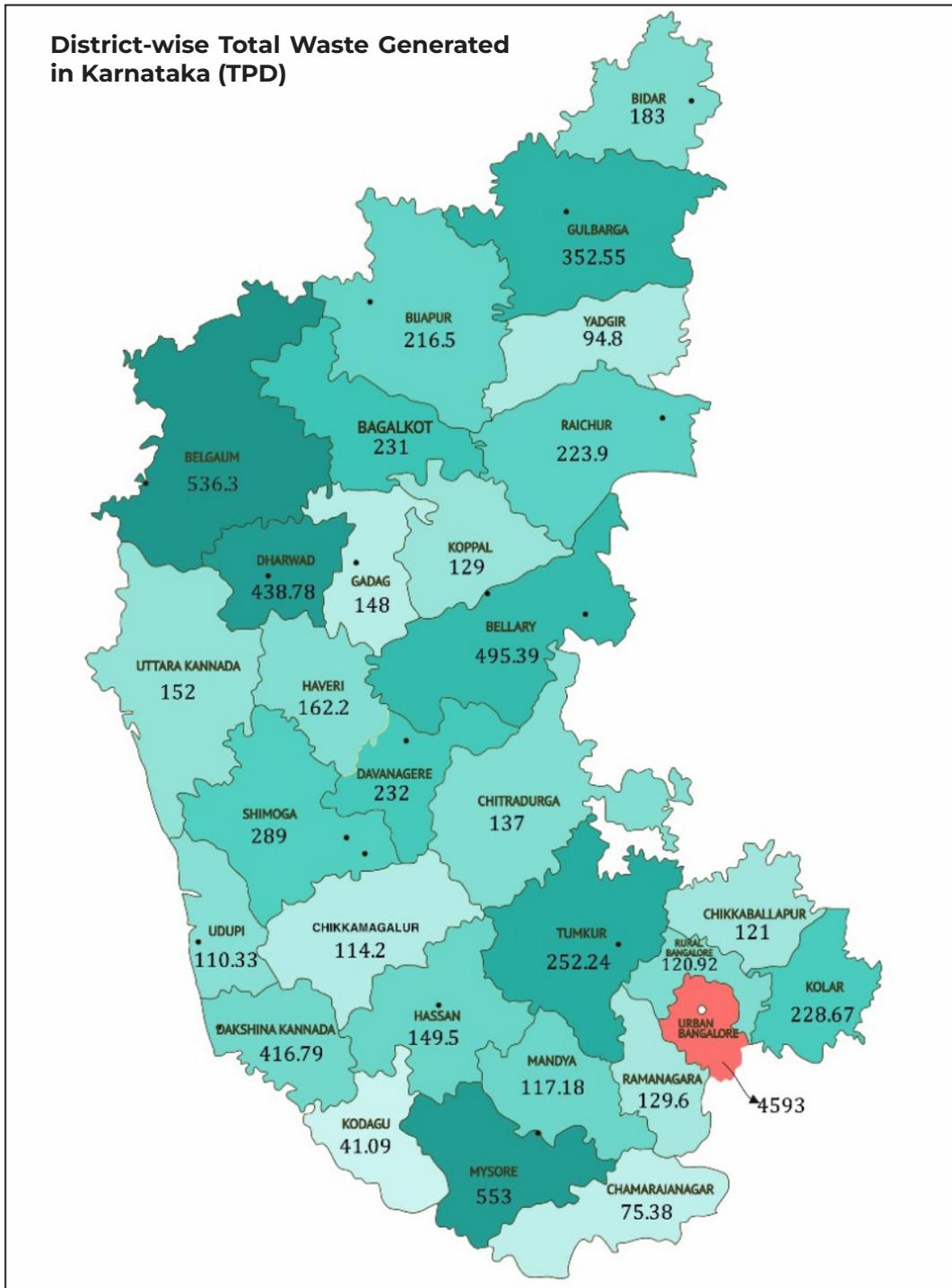
7.6.1 Solid Waste Management in Karnataka

Solid Waste (SW) generation is an inevitable consequence of rapid urbanization, population explosion, changing lifestyle and modernization. Solid Waste Management (SWM) is efficient collection, transportation, processing, recycling and disposal and monitoring of waste and its impact on environment.

SWM is one of the major challenges all over the world and in India. About 72 million Tons of SW is generated in the country, of which 43 million Tons are collected and only 12 million Tons of waste is scientifically treated. Balance quantity of 31 million Tons is dumped in landfills without any treatment. Unscientific Land-filling of Municipal Solid Waste (MSW) generates huge quantity of leachate, which contaminates water. Most of the Urban Local Bodies (ULBs) adopt land-filling as the option for disposal of SW, which is linked to water contamination, generation of greenhouse gases beside odour nuisance.

❑ Current Status of Solid waste Management in Karnataka

The Karnataka State Pollution Control Board (KSPCB), is fortifying scientific MSW management in Karnataka by enforcing the SWM Rules 2016. About 11,044 Tonnes Per Day (TPD) of MSW is generated in the state, of which 50-55% is wet/organic waste, 30-35% is dry waste and 10-20% is C&D and inert wastes. By 2031, the municipal SW generation in Bengaluru alone is projected to exceed 13,000 TPD.

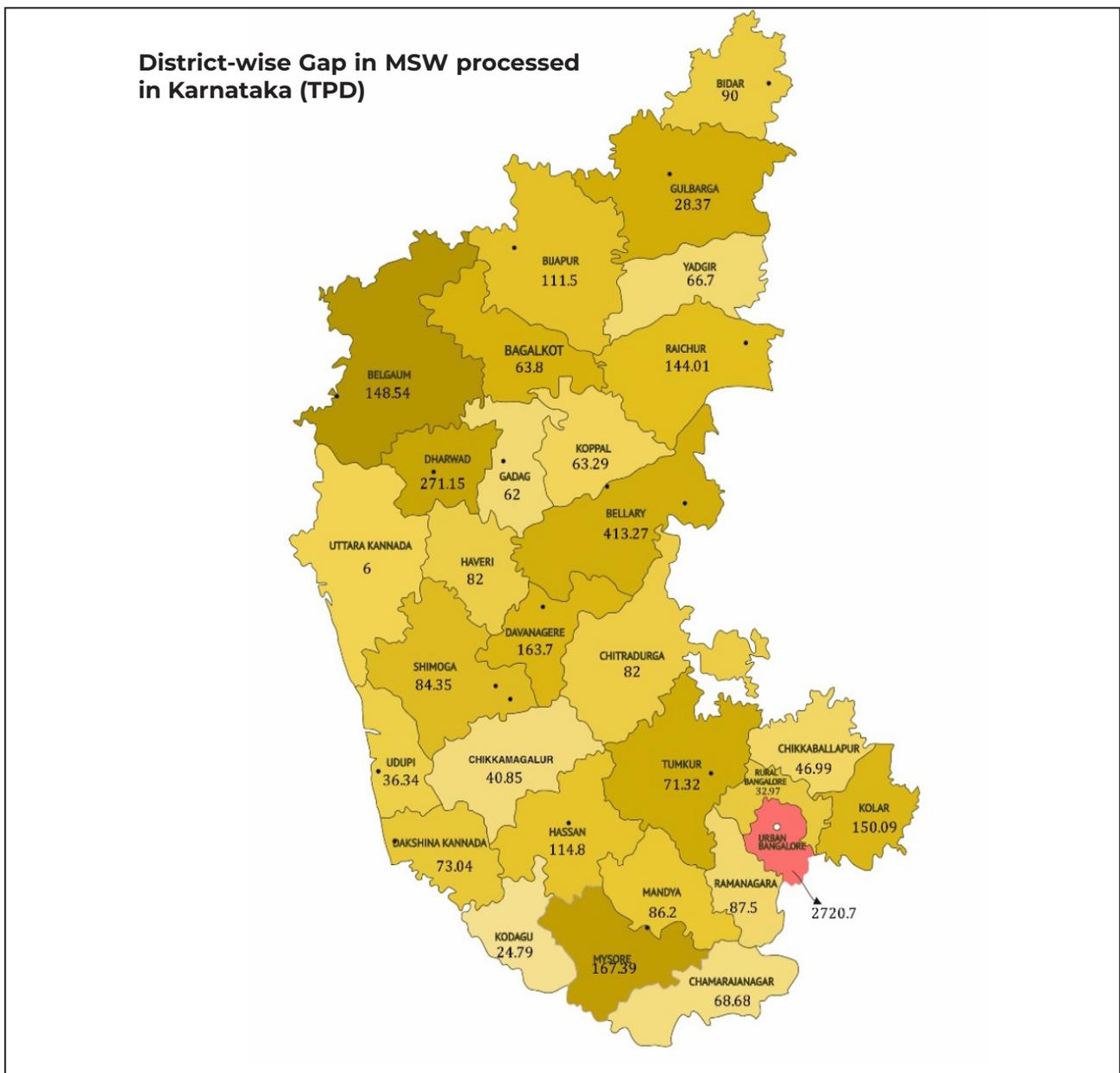


The SWM Rules 2016, 4(a) mandates door-to-door collection, proper segregation, transportation and disposal of SW in all the ULBs. Most of the districts have successfully achieved a high percentage of door-to-door collection and some local bodies have adopted strategies such as pipe composting, community composting for efficient management of segregated wet waste. **Appendix 7.4** gives district wise status of SW management in the State.

Wet Waste Management

At present, out of 5743.7 TPD wet waste generated in Karnataka, only 4011.8 TPD is converted into 424.77 TPD of compost, which is sold to farmers at a price of Rs 5/Kg, in coordination with the Department of Agriculture. The Districts like Bengaluru, Dakshina Kannada, Shivamogga, Mysuru, Belagavi and Dharwad generates more than 20 TPD of compost from organic waste, whereas, Ballari, Bengaluru Rural Raichur, Yadgir, Kodagu, Chamarajanagar, Mandya, and Chitra Durga generates less than 5 TPD.

If 2399 TPD of organic waste generated in Bengaluru is composted, it can produce 218 TPD of compost, corresponding to revenue of Rs.11.00 lakh per day. 3344 TPD of wet-waste generated in ULBs other than Bengaluru limits can produce around 300 TPD of compost corresponding to an income of Rs.15.00 lakh per day. Only 55% of wet waste is converted into compost in the state and there is lot of scope to improve.



❑ Dry waste Management

Bengaluru generates about 1167 TPD of dry waste. Of this, 612 TPD is recycled and 3.3 TPD is sent to cement kilns. Remaining 551.7 TPD, 47.26% of the total dry waste generated, ends up being land-filled. Overall, Karnataka generates about 3237 TPD of dry waste. Out of which, 1114.8 TPD is recycled and 215 tonnes is converted into Refuse Derived Fuel (RDF) and 118 TPD is sent to cement kilns for co-processing in cement industries, as a source of energy. Only 44.7% of the dry waste generated is recycled, while the remaining quantity of 1790 TPD ends up in landfill or waste dump.

RDF produced from the dry waste generated from domestic and commercial activities includes biodegradable and non-biodegradable combustible materials. RDF with a calorific value higher than 2000 Kcal/Kg would form a good alternative source of energy in cement industries or it can be incinerated in waste-to-energy plants. Further, in the 'Guidelines on Usage of RDF in Various Industries' by the Ministry of Housing and Urban Affairs, RDF has been valued at a suggestive price of Rs.600.00 to Rs.2400.00 per tonnes, which could form a continuous revenue source for ULBs.

Districts like Bengaluru Urban, Mysuru, Shivamogga, Dakshina Kannada, Belagavi, Bagalkot, VijayaPura, Uttara Kannada and Kalburgi recycle more than 40 TPD of dry waste. However, in districts like Bengaluru Rural, Dharwad, Kodagu, Davangere, Chikkaballapura, Mandya, Chamarajanagar, Hassan, Chikkamagaluru, Raichur and Koppala recycle of dry waste is inadequate. BBMP has proposed major projects of 'Waste-to-Energy', which are in the early inception stages. There is a large scope for valorising the remaining of dry waste, which is otherwise land filled and causes a serious environmental problem.

Way Forward

Considering the fact that the resources for waste management and disposal methods are scarce, strategy for efficient scientific management of MSW must necessarily pivot towards resource recovery, thereby making waste a valuable component. The hierarchy of waste management could be optimised by adopting the "5R" option i.e., Reduce, Reuse, Replenish, Recycle and Recovery.

There is a need to evolve policy for Circular Economy (CE) for SWM to replace the linear economy of 'take, make, use and dispose' and reduce environmental burden.

Imposition of user fee is expected to ensure proper segregation and enhance income to the ULB for development of infrastructure for integrated waste management facility that reduce environmental burden of unscientific disposal of solid waste. Further, economic earnings from segregation of waste & converting it into useable materials like compost, energy etc is expected to boost the incomes of ULB.

ULBs may also propose imposition of User Fee as per Rule 3(54) of SWM Rules 2016 on the waste generation to cover full or part cost of providing solid waste collection, transportation, processing and disposal services. Pertaining to C&D waste, Section 4(5) of C&D Waste Management Rules 2016 mandates that every waste generator generating more than 20 TPD or 300 TPM shall have to pay for processing and disposal of C&D waste.

Imposition of user fee for SWM in the BBMP area is expected to generate an income of Rs.870.00 crore per annum. Similarly, imposition of user fee for C&D waste management

can generate 100.00 crores per annum. Apart from the user fee, converting wet waste into compost could generate up to Rs.44.00 crores per annum and converting dry waste into RDF will generate about 16.00 crores per annum. The total expected income from imposition of user fee for SWM and C&D waste and SWM processing in Bengaluru alone is around Rs. 1030.00 crore.

Strategies for effective Solid Waste Management

- ❑ Integrated MSW management to ensure safe and environmentally sound disposal of waste.
- ❑ Encourage decentralized collection centres as mandated by MSW Rules 2016, Section 3(15) to process dry waste to avoid contamination by wet waste and minimize transportation.
- ❑ Set up advanced wet waste processing units for composting and bio-methanation.
- ❑ Sensitize general public about effective SWM techniques and create awareness regarding the consequences of poor waste management.
- ❑ Establish source segregation of MSW through performance-based incentive scheme.
- ❑ Minimize the gap in generation and processing of MSW by emphasizing 5 R's of waste hierarchy i.e. 'reduce, re-use, recycle and recover and replenish (disposal)' as mandated by MSW Rules 2016, Section 3(57).
- ❑ Adopt environmentally sound technologies like composting, bio-methanation, RDF and waste to energy initiatives.
- ❑ Boost the incomes of ULBs through earnings from effective MSW processing like recycling, composting, and RDF.
- ❑ Set up zone-wise segregation and processing facilities to ensure 100% processing of MSW and minimize land-filling.
- ❑ Reduce transportation of MSW to minimize the dependence on fossil fuels and impact on air quality.

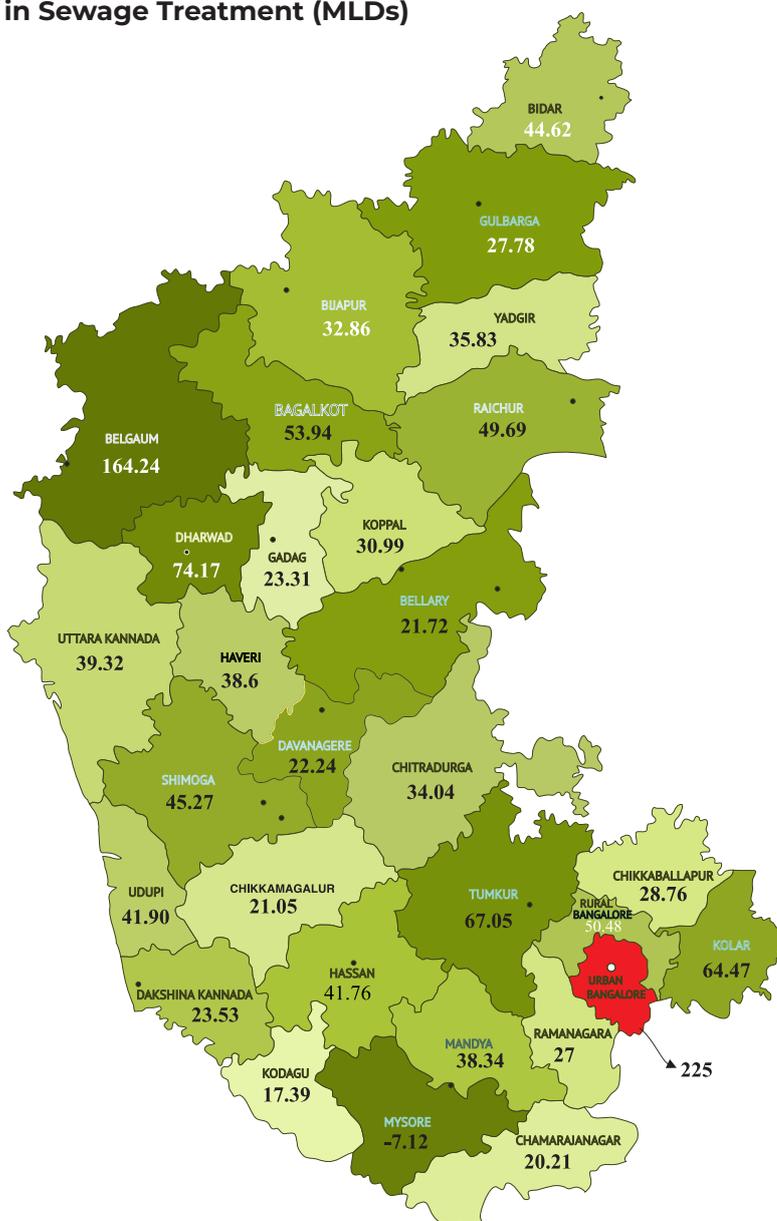
7.6.2 Sewage Management in Karnataka

Pollution of water bodies due to untreated sewage discharge resulting from urbanisation and industrialisation has emerged as key area of concern in the recent past and resulted in severe adverse impacts on environment and human health.

In India, untreated sewage discharge contributes to 70% of water pollution. Karnataka State contributes 6% of India's total sewage generation. State with 67 million people, generates approximately 3357 Million Litres per Day (MLD) of sewage, which is expected to increase in the coming years. Hence there is a need to prepare comprehensive sustainable policy for effective sewage management along with treated water recycle policy. Sewage management is expensive and poses problems for finance. Imposing tariffs/user charges for consumers fulfils three basic functions: (i) public resources can be judiciously used for other specific purposes; (ii) boosts effectiveness, by linking the revenues collected to the service provided; and (iii) generates a clear signal to users about the real cost of the service, encouraging rational consumption.

169 STPs are established across the State, of which 36 are developed and operated by BWSSB, 98, 33 and 2 STPs are, developed by KUWS&DB, KUIDFC and ULBs respectively and operated by DMA. Of the total sewage generation (3356 MLD), total combined treatment capacity of the STPs is 2788 MLD (83.1%). Of this installed capacity, only 70.26% is being utilized to treat 1958.15 MLD of sewage, implying that the remaining 1398.44 MLD sewage finds its way to rivers and lakes, untreated, resulting in severe environmental deterioration. District-wise Sewage Management in Karnataka is as shown in **Appendix 7.5**.

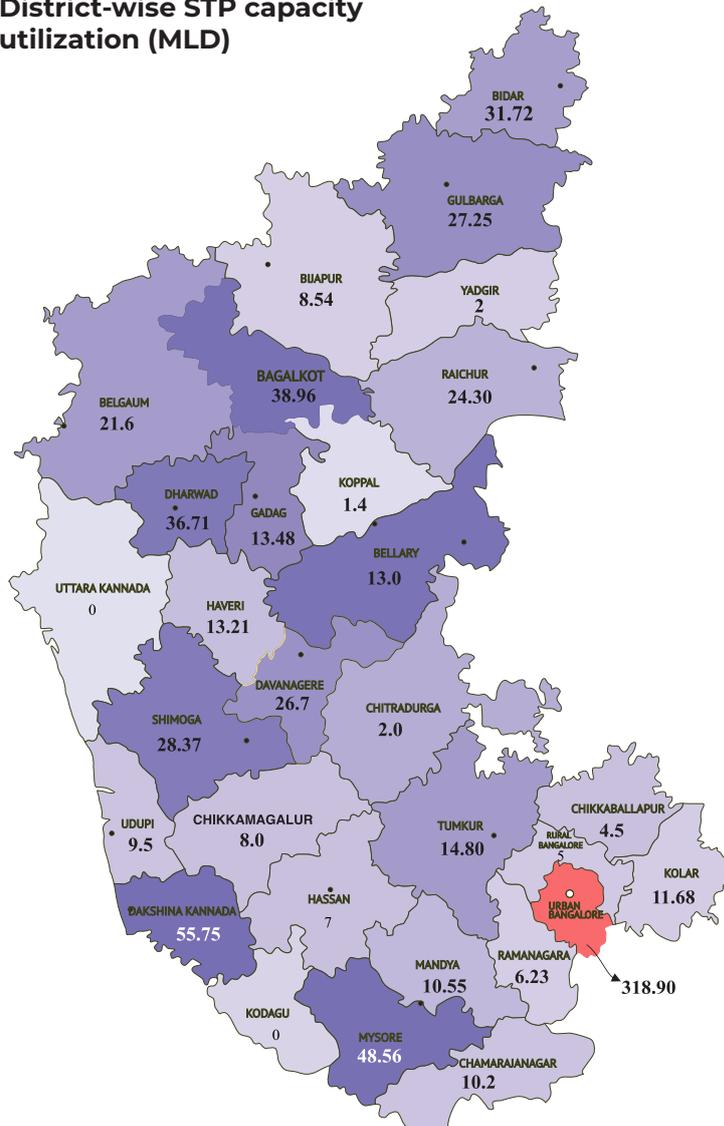
District-wise Gap in Sewage Treatment (MLDs)



In Bengaluru, of the total quantity of sewage generated (1440 MLD), only 1213 MLD is treated (84.23%). Out of this treated wastewater, about 800.8 MLD (66.02%) is used for refilling tanks in Kolar & Chikkaballapura and for green belt development & gardening in Bangalore International Airport, Golf Course, Lalbagh and Cubbon Park, etc, saving precious fresh water. In other ULBs of Karnataka, the sewage generated is 1916.5 MLD. The STPs have a total treatment capacity of 1259.96 MLD, but treat only about 745.87 MLD of sewage.

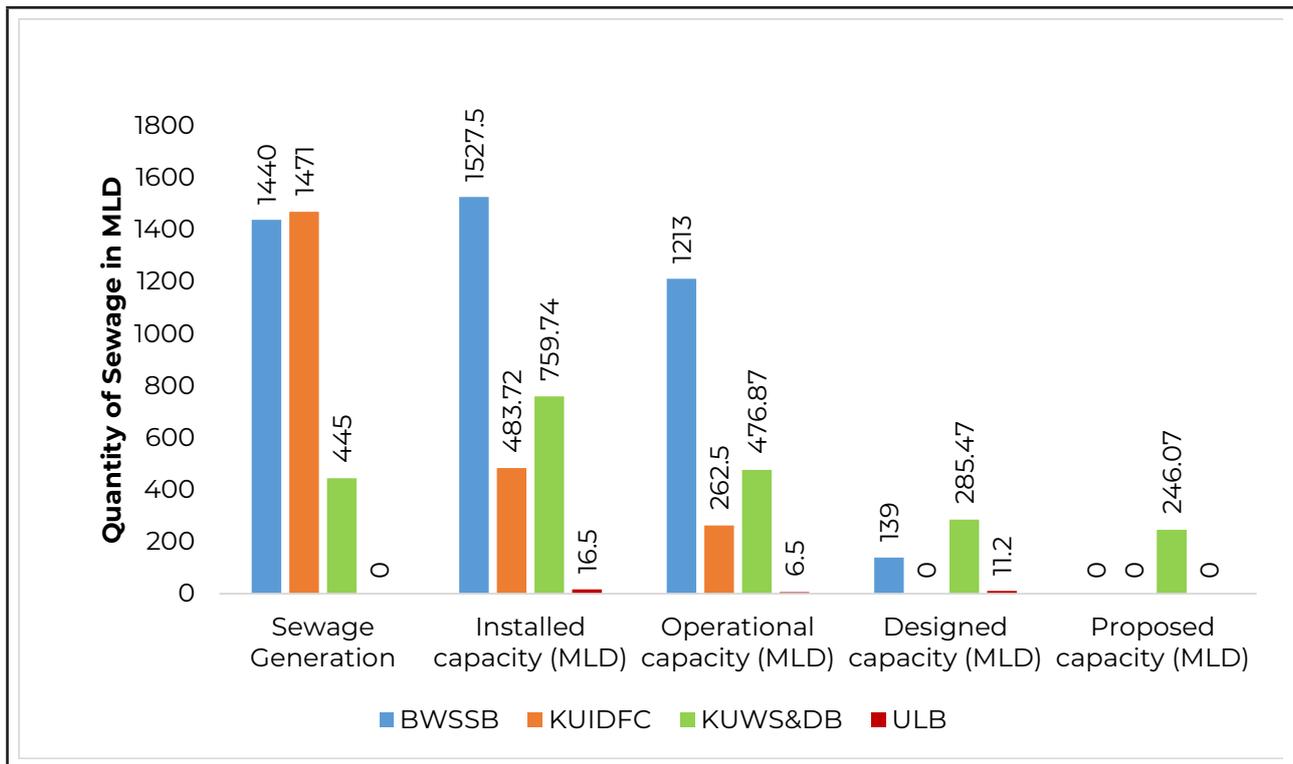
Hence, there is overall gap of 41.64% in the utilization capacity of the total existing STPs in the state. This gap could be filled by providing adequate Under Ground Drainage (UGD) connections and Interception & Diversion (I&D) of the sewage to wet-wells and pumping to the nearby STPs to maximize the utilization of installed capacity. Measures are taken to implement several such I&D projects by BWSSB, KUWS&DB and KUIDFC across the State.

District-wise STP capacity utilization (MLD)

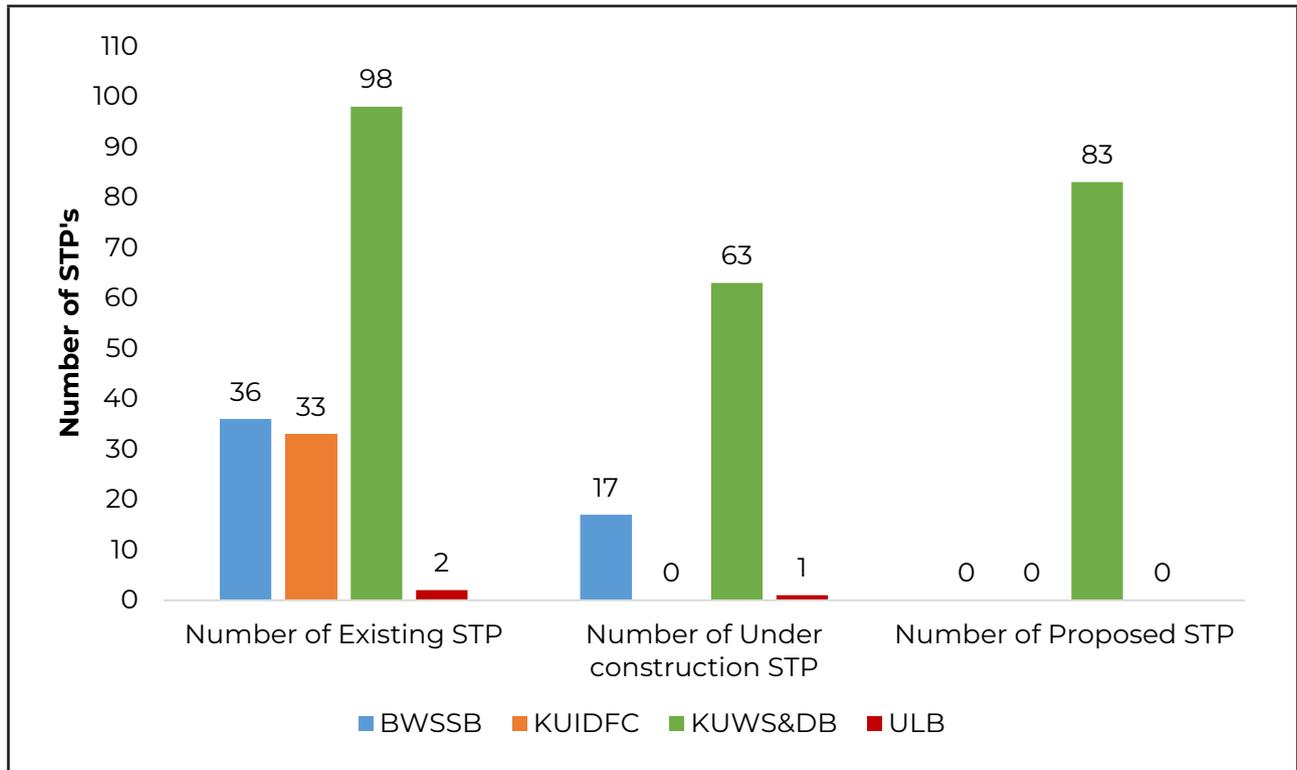


Considering the projected growth of population, the existing STP capacity is not sufficient and there is severe short fall. There is a need to increase the sewage treatment capacity of the state in order to avoid adverse impact of discharges of untreated sewage on health and environment. To cover the shortfall in treatment of domestic sewage, 17 STPs of capacity 139 MLD by BWSSB, 63 STPs of 285.47 MLD capacity by KUWS&DB and one STP of 11.2 MLD capacity by ULB, respectively, are under construction in the state. Details of Sewage Waste Management in Karnataka is as shown in **Figure 7.4**.

Figure 7.4 Agency-wise SWM in Karnataka (in MLDs)



Further, 83 STPs of 246.07 MLD capacity by KUWS&DB and 45 Faecal Sludge and Septage Management (FSSM) systems have been proposed. FSSMs are low-cost and low-capacity sewage management systems ideal for ULBs with less than 1 lakh population. Out of 45 approved FSTPs, 3 no. of FSTPs are under construction phase and the remaining proposed projects are at various stages of implementation such as preparation and submissions of Detailed Project Report (DPR) and tendering. Details of Agency-wise-STP status is as shown in **Figure 7.5**.

Figure 7.5 Agency-wise STP status

Way Forward

In order to prevent further deterioration of water bodies, there is a need to increase the capacity utilization of the existing STPs and expediting the construction of proposed STPs with modern and feasible technologies. Recycling and reuse of treated water needs to be extensively promoted. In addition to installation of new STPs, operating efficiency of existing STPs must be monitored and improved by adopting newer technologies and complying with Standard Operating Procedure (SOP) set by Central Pollution Control Board (CPCB) and KSPCB. A collective effort must be planned to minimize freshwater usage and maximize sewage treatment and re-use/recycle of treated sewage.

There is a need to fix tariffs to charge users for treatment services. The effective use of command-and-control instruments impose a legal limit on the amount of pollution that is allowed. Economic mechanisms like (i) creating incentives for individuals and companies to voluntarily assume the costs of controlling water pollution by adopting efficient sewage treatment technology and (ii) having proper treated water reuse/recycle policy to prevent the environmental damage could be effective.

In order to ensure sustenance of sewage treatment and recycling of treated water, it is necessary to evolve policy for generating revenue through treated water recycling. As an example, total sewage generation in BBMP area is 1440 MLD. If this sewage is treated efficiently, it is estimated to generate 1153 MLD of usable water (for non-potable purpose). At a cost of Rs.300.00 per 1000 L of water, treated waste water is expected to generate revenue of Rs.346.00 crore per annum to BWSSB.

Treated wastewater finds usage in the following sector.

- ❑ Agriculture - Irrigation, Horticulture, crop irrigation, Commercial nurseries, Landscape irrigation, Parks, avenue Plantation, School yards, Freeway medians, Golf courses. Green belts, Residential Lawns.
- ❑ Industries - Cooling water, Boiler feed, secondary Processes water, Heavy construction,
- ❑ Community - Groundwater recharge & replenishment, Saltwater intrusion control, Subsidence control, maintain water level at Lakes and ponds, Recreational / environmental uses, Marsh enhancement, Stream-flow augmentation, Fisheries, Snowmaking
- ❑ Non-potable urban uses - Fire protection, Air conditioning, Toilet flushing, Blending in water supply reservoirs.

7.6.3 Polluted River Stretches in Karnataka

Urbanization adversely affects physical, chemical, biological aspects and life support system of river ecosystem beside landscape changes. Chemical and physical properties of the urban rivers get altered due to municipal and industrial discharges. Direct dumping of sewage and MSW into the river and addition of harmful chemicals from agricultural runoff contributes to river pollution and eutrophication. Urban rivers are commonly characterized by presence of organic pollutants, high Salinity, high Total Suspended Solid (TSS), heavy Metals, Nitrate, acidification, and Eutrophication, high Biological Oxygen Demand (BOD), Chemical Oxygen Demand (COD).

❑ Current status of Polluted River Stretches in Karnataka

Based on the Biological Oxygen Demand (BOD) value at the water quality monitoring locations along the river stretches, CPCB has identified 351 Polluted River Stretches (PRS) throughout India wherein BOD exceeds 03 mg/L. 17 of them are in Karnataka under the catchment of 42 ULB.

Among the 17 Polluted River Stretches (PRS) in Karnataka, 4 PRS, namely Lakshman theertha, Arkavathi, Mala prabha and Tungabhadra are classified as priority III (BOD in the range of 10 to 20 mg/L), 6 PRS, namely Cauvery, Kabini, Kali, Kagina, Krishna and Bhadra are classified as priority-IV (BOD in the range of 6 to 10 mg/L) and the remaining 7 PRS namely, Yagachi, Shimsha, Nethravathi, Kumardhara, Bhima and Tunga are priority-V (BOD in the range of 3 to 6 mg/L).

A basic inventory to identify the pollution source reveals that the 42 ULBs cumulatively generate 884.25 Million Litres per Day (MLD) of sewage. Available total sewage treatment (STP) capacity in these ULBs is 822 MLD. Of the generated sewage, 536.00 MLD is treated in the STPs, while 348.25 MLD sewage is untreated which eventually enters the rivers making them highly polluted. These 42 ULBs cumulatively generate 1860.7 tons per day of MSW. Of which, only 844.40 TPD is processed. 1016.30 TPD of MSW accumulates in river catchments or gets dumped in landfill, threatening and damaging quality of river water and underground water. Details of sewage and municipal solid in the 17 Polluted River Stretches (PRS) ULBs of Karnataka is given in **Appendix 7.6**.

Karnataka has taken special interest in rejuvenation of the 17 Polluted River Stretches (PRS) and facilitating the preparation of River Rejuvenation Action Plans for individual PRS along with complying timelines. The water quality is monitored on a regular basis by analysing the parameters such as pH, dissolved oxygen (DO), BOD, faecal coliform (FC) and total coliform (TC). Under the River Rejuvenation programme, 55 STPs with a capacity of 133.05 MLD have been proposed and out of them 31 are under construction. Furthermore, for cities with less than 10 lakh population, faecal sludge and septage management (FSSM) facilities have been proposed in 05 ULBs.

Way Forward

It is high time that Sewage and Solid waste management issues become top priority of ULBs act for continued relevance of the hymn we prayed over thousands of years. The pollution load should not cross the carrying capacity of rivers. The river rejuvenation programme of 17 polluted river stretches in Karnataka is aimed at improving river water quality so that benefit of life support system of sacred rivers is continuously available for future.

7.6.4 Industrial Effluent Management

The industrial activities are associated with increased levels of pollution. Increased level of Environmental pollution reduces the quality of environmental attributes like air, water, soil fertility etc and diminishes the carrying capacity of natural ecosystem. The healthy ecosystem services are basic needs for a safe living on this earth. Increased level of industrial activity causes increased level of pollution thereby making the people to agitate against industrial ecosystem in their neighbourhood. Any amount of economic benefit cannot compensate the threatened ecological comforts of the people.

❑ Industrial Effluent Management in Karnataka

In Karnataka, there are 64,108 industries categorised as Green, Orange and Red category. Out Of these, 3603 industries are water intensive industries thereby generating trade effluent. From these industries total of 436.63 MLD of effluent is generated. Out of effluent generating industries, 3424 industrial units have provided inhouse Effluent Treatment Plants (ETP), with a combined capacity of 739.64 MLD. About 803 industries who does not have in house ETPs, the trade effluent generated from these industries will be disposed to 10 Common Effluent Treatment Plants (CETPs) that are spread out across various districts of Karnataka by following the due procedure.

Way Forward

- ❑ Industries shall not only ensure economic benefit but also ecological benefits to maintain the sustainability for resource conservation and pollution control.

Strategy for Effective Trade Effluent Management

- ❑ Establishing cluster wise industries like textile, electroplating, pharmaceutical, etc, in a designated area with integrated waste management facilities.
- ❑ Providing “Plug and Play System” for ensuring carrying of trade effluent from each industry to the treatment plant.

- ❑ Encouraging establishment of cluster wise CETP at designated industrial area.
- ❑ Creating sufficient buffer around industrial area and also around different categories of industries.
- ❑ Encouraging establishment of industries with circularity i.e. waste from one industry can be used as resource/raw material in the other and adopting efficient treated water recycling facility.
- ❑ Encouraging the industries to adopt Rs.5.00 to conserve natural resource and to reduce the pollution.

7.6.5 Electronic-Waste (E-Waste) Management

Electronic waste (e-waste) is generated when electronic and electrical equipment (EEE) are unfit to use. Fast replacement of electronic and electrical goods due to rapid technology advancements, increased production of newer products and compelling marketing strategies of the brands result in shortening of the usable period of these goods, resulting in the accumulation of e-waste. Computers, laptops, servers, mainframes, monitors, compact discs, printers, scanners, copiers, calculators fax machines, battery cells, cellular and mobile phones, transceivers televisions, radio, iPod, medical apparatus, washing machines, refrigerators, air conditioners, speakers and home theatre system, Xbox, PlayStation and other gaming equipment and solar panels, uninterrupted power supplies (UPS) etc comprise common e-waste, beyond their usable life.

E-waste typically consists of metals, plastics, Cathode Ray Tubes (CRTs), printed circuit boards, cables etc., containing significant quantities of precious and rare-earth metal and metal alloys that are also toxic. The crude dismantling and processing of e-waste poses an immense risk to the humans, animals and the environment, even in very minute quantities. Global average recovery of these precious metals is only 10-15% due to the non-availability of viable recovery technologies, resulting in huge loss of valuable metals and environmental accumulation, causing pollution. India is the third largest producers of e-waste after USA and China and generated 3.2 million tonnes of e-waste in 2019. Further, e-waste generation is projected to reach 74 million tons globally and 11.5 million tonnes in India by 2028. The global e-waste management market size was valued at 49.8 billion USD in 2020 and is projected to reach 144 billion by 2028.

❑ E-waste Management in Karnataka

In Karnataka during the period of 2021-22, 1,11,589.92 Metric Tons (MT) of e-waste was collected. As on date there are a total of 93 authorized e-waste managing facilities with a capacity of 162724.4 MT. These e-waste managing facilities consist of (i) 30 dismantling units are operational with a capacity of 27,426 MT; (ii) 23 recycler units with a capacity of 21330 MT capacity; (iii) 12 dismantling and recyclers units with a capacity of 16656 MT; (iv) 6 refurbisher units of capacity 3646 MT; (v) 3 dismantler, refurbisher & recyclers units with a capacity of 5139.6 MT; (vi) 10 dismantlers and refurbisher units of capacity 14005 MT; and (vii) 9 refurbisher and recycler units with a capacity of 74521.8 MT.

Way Forward

Computers, laptops and mobiles are estimated to have about 0.2 g, 0.1 g and 33 mg of gold each, respectively. As on March 2021, India has registered an e-waste recycling capacity

of 1.07 million tonnes per annum, With every million tonne of recycled e-waste yielding roughly 14 Kg Palladium, 3 Kg Gold, 350 Kg Silver and 15875 Kg Copper, the opportunities for revenue generation from e-waste metal recovery is immense.

Further, e-waste recycling industry is significantly generates employment opportunities in the field of resource conservation. These sectors can also create job opportunities for skilled, semi-skilled and unskilled work force creating buying capacity in the market.

In the recent past linear economy of “Take-Make-Consume-Dispose” is being replaced by “Circular Economy (CE)” which has an approach towards management of e-waste. The concept of circular economy will play an important role in resource recovery, reduction in waste thereby generating lower level of pollution, longer product-life, recovery of precious and rare materials, minimization of occupational and health hazards as well as in giving an impetus to the evolution of recycling, reusing, recovering and replenishing industry, thereby leading to formalization and job creation. Changes relating to design (like Restricted Use of Hazardous Substance (RoHS), sustainable production of Electronic and Electrical Equipment (EEE), development of innovative CE business models and responsible consumption will also be taken up simultaneously.

7.6.6 Plastic Waste Management

The innovation of Plastic has reduced the environmental burden of resources of wood, metal, etc but the waste plastic is creating health hazardous not only to human beings but also to all the flora and fauna including aquatic animals. The plastic products have become an integral part in our daily life and has become a basic need of economic activity and are produced at a massive scale worldwide.

As per the 2019 report of Ministry of Housing and Urban Affairs, globally an average production of plastic globally crosses 150 Million tonnes per annum. Approximately 9.4 million TPA of plastic waste is generated in the country, which amounts to 26,000 TPD. The recycling rate in India is considerably higher than the global average of 20%, there is still over 9,400 tonnes of plastic waste which is either landfilled or ends up in polluting streams or groundwater resources.

The Government of Karnataka has issued plastic ban notification on 11-03-2016. The plastic items such as plastic carry bags, plastic banners, plastic buntings, flex, plastic flags, plastic plates, plastic cups, plastic spoons, cling films and plastic sheets for spreading on dining table irrespective of thickness including the above items made of thermacol and plastic which use plastic micro beads are banned from usage.

Further, Plastic Waste Management (PWM) Rules, 2016, ban sachets using plastic material used for storing, packing or selling gutka, tobacco and pan masala [Rule 4(f&i)] PWM (Amended) Rules, 2021, the manufacture, import, stocking, distribution, sale and use of carry bags made of virgin or recycled plastic. Additionally, the Notification of 12th August 2021, prohibits manufacture, import, stocking, distribution, sale and use of the single use plastic items, which have low utility and high littering potential. Recently during 1st July, 2022, GoI has issued a notification banning Single Use Plastic i.e. Ear buds with plastic sticks, plastic sticks for balloons, plastic flags, candy sticks, ice cream sticks, polystyrene [thermocool] for decoration; ii. plates, cups, glasses, cutlery such as forks, spoons, knives, straw, trays, wrapping or packing films around sweet boxes, invitation cards, and cigarette packets, plastic or PVC banners. The PWM Rules 2021 is applicable

to every waste generator, ULB/GP, manufacturer, producer/importer/brand owner and plastic waste processor/ recycler.

During the year 2021-22, the total plastic waste generated in Karnataka was 368080 Tonnes. Till date there are 143 registered recycling units with authorized recycling capacity of 210820.04Tonnes.

Since there is a huge informal market which is working in recycling of plastic and since the informal sector does not care for environmental pollution control, there is need to bring in informal sector to formal sector legalising the activity thereby enhancing the economic status of the community. The long term Sustainable Plastic Waste Management can be achieved by adoption of Circular Economy approaches which focus on resource recovery, thereby reducing and offsetting the amount of plastic waste that ends up in landfills.

Huge quantities of plastics were seen dumped at the sites without recovering the plastic for channelization to recyclers. Hence, compulsory segregation at all levels (specifically at source) collecting and selling points needed using incentivizing and disincentivizing policy options for example is collecting extra deposit and return that extra deposit when plastic bottles are provided back by the shops (Deposit Refund Scheme).

Most of the plastic waste is recycled by the informal sector, waste-pickers, however, they suffer from price volatility and lack of transparency in the supply chain. Hence initiatives on institutionalizing and strengthening value chains required.

Restart the plastic recycling units by using the technology upgradation fund.

Way forward

There are large opportunities for manufacturing secondary products. Hence there is a need to have proper policy for collection, segregation and distributions among different recycling industries.

Large numbers of informal sectors are engaged in the resource recovery giving least preference for pollution control. It is necessary to bring this informal sector into formal sector by providing required infrastructure with pollution control measures and trained personnel for effective management of plastic waste.

It is necessary to allocate land based on the processing capacity to establish plastic recycling facility in each district based on the quantity of plastic waste generated.

7.6.7 The following are the important action points implemented by the Board

- ❑ Board has launched online application for Green, Orange and Red categories of Consents for Establishment, Consent for Operation, Consent for Expansion and HWM authorization. The applications are processed through online mode and digitally signed, e-out warded consents orders / authorization orders are issued through XGN-Karnataka Software.
- ❑ The Board has made mandatory provision for collection of consent fee by online mode through XGN Karnataka (Payment Gateway (Debit card, Credit card, Net banking)).

- ❑ Board is issuing CFE with a validity of 5 years and CFO with a validity of 10 years, 5 years & 5 years for Green, Orange & Red categories industry/ organization respectively.
- ❑ Board has published a well defined compliance inspection procedure, Check list on the Board's website. Designed and implemented a system for identifying establishments that need to be inspected based on computerized risk assessment, mandated online submission of inspection report within 48 hours to the Department, and also provided the provision to view and download submitted inspection reports by the organizations.
- ❑ Facility has been provided for third parties to easily verify the approval certificates (Consent order) in the public domain.
- ❑ Board has exempted Green industries with a history of satisfactory compliance from environmental compliance inspection.
- ❑ Board has provided the facility for third party certifications instead of Departmental inspections under environment/pollution laws for medium risk industries (Orange category industries).
- ❑ Board has implemented Random inspection of highly polluting industries.
- ❑ Introduced GPS tracking to monitor vehicles carrying industrial effluents to CETPs.
- ❑ Introduced GPS tracking to monitor vehicles transporting hazardous waste to TSDF.
- ❑ Introduced state of art Emergency Response Vehicles to patrol illegal discharges, watch CETP/TSDF, handle emergency situation and address complainants.
- ❑ The Command Control Centre enabled with GPS technology was established with dedicated phone number for general public to lodge and track complaints on violations against Air, Water, Noise and SWM.

APPENDIX 7.1

District-wise Forest Cover along with Geographical Areas in Karnataka
(Area in sq.km)

Sl. No	District	Geo-graphical Area	Very Dense Forest	Mod. Dense Forest	Open Forest	Total Forest Area	% of Geog. area	Change	Scrub
1	Bagalkote	6,552		18.99	238.24	257.23	3.93	4.26	393.02
2	Bengaluru	2,196		24.88	263.60	288.48	13.14	1.05	7.45
3	Bengaluru Rural	2,298		24.04	133.98	158.02	6.88	-4.73	27.00
4	Belgavi	13,433	35.99	736.99	392.68	1,165.66	8.68	24.06	671.67
5	Ballari	8,461		110.19	627.30	737.49	8.72	-1.73	485.08
6	Bidar	5,448		21.48	76.10	97.58	1.79	9.16	46.28
7	Vijayapura	10,498			27.12	27.12	0.26	2.07	8.71
8	Chamarajnagar	5,648	93.19	1,525.16	1,112.85	2,731.20	48.36	7.01	125.82
9	Chickaballapura	4,244		19.73	255.59	275.32	6.49	5.62	184.37
10	Chikkamagaluru	7,202	901.63	2,584.95	478.92	3,965.50	55.06	13.72	77.10
11	Chitradurga	8,436		47.06	559.94	607.00	7.20	30.39	618.33
12	Dakshina Kannada	4,861	557.88	1,471.73	1,035.37	3,064.98	63.05	0.32	2.85
13	Davanagere	5,924	11.00	167.02	535.56	713.58	12.05	4.01	323.80
14	Dharwad	4,260		223.71	151.20	374.91	8.80	0.49	3.52
15	Gadag	4,657		0.23	140.82	141.05	3.03	-0.57	117.63
16	Kalaburagi	10,954		91.93	102.96	194.89	1.78	-0.16	40.89
17	Hassan	6,814	147.67	771.51	565.63	1,484.81	21.79	6.37	73.39
18	Haveri	4,823		144.76	202.37	347.13	7.20	3.88	102.29
19	Kodagu	4,102	794.32	1,886.30	577.29	3,257.91	79.42	-5.47	2.16
20	Kolar	3,979		58.05	325.67	383.72	9.64	2.33	67.95
21	Koppal	5,570			35.96	35.96	0.65	2.64	168.95
22	Mandya	4,962		114.15	394.18	508.33	10.24	9.01	103.68
23	Mysuru	6,307	124.96	586.74	351.35	1,063.05	16.86	10.22	36.02
24	Raichur	8,442		0.94	43.29	44.23	0.52		184.91
25	Ramanagara	3,516		196.71	477.30	674.01	19.17	9.32	176.23
26	Shivamogga	8,478	481.99	2,827.90	963.39	4,273.18	50.40	2.40	22.33
27	Tumakuru	10,597		72.34	1,250.73	1,323.07	12.49	39.03	402.96
28	Udupi	3,582	216.53	1,383.74	656.46	2,256.73	63.00	-26.65	
29	Uttara Kannada	10,277	1,167.88	5,856.60	1,106.46	8,130.94	79.12	7.19	3.49
30	Yadgir	5,270		17.02	129.89	146.91	2.79	-0.73	132.88
	Grand Total	1,91,791	4,532.94	20,984.85	13,212.20	38,729.99	20.19	154.51	4,610.76

Source: India State of Forest Report (ISFR)- 2021

APPENDIX 7.2

Allocation and Progress for the year 2022-23 as per Avalokana

(Rs. in crore)

Scheme Name	Allocation (BE+SE)	Productive Allocation	Admin/ Salary Allocation	Release	Productive Release	Admin/ Salary Release	Total Expenditure	Productive Exp	Admin/ Salary Exp
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.31	0.31	0.00	0.28	0.28	0.00	0.30	0.30	0.00
Forest Department Establishment and Administrative Expenditure	653.18	0.00	653.18	438.74	0.00	438.74	437.29	0.00	437.29
Working Plan, Research and Training Institutions	17.00	10.00	7.00	17.06	9.96	7.10	8.57	5.54	3.03
Research	2.00	2.00	0.00	1.15	1.15	0.00	0.49	0.49	0.00
Computerisation of Forest Department	2.58	1.85	0.73	1.65	0.93	0.73	0.96	0.42	0.54
Roads , Bridges and Buildings (Maintenance)	16.00	16.00	0.00	13.96	13.96	0.00	9.53	9.53	0.00
Forest Protection, Regeneration and Cultural Operation	16.75	16.75	0.00	11.50	11.50	0.00	4.36	4.36	0.00
Afforestation in Other Areas	16.00	16.00	0.00	17.77	17.77	0.00	14.29	14.29	0.00
Demarcation and Protection of Forests	30.00	30.00	0.00	30.01	30.01	0.00	19.03	19.03	0.00
Afforestation on Forest and Non Forest Areas	10.00	10.00	0.00	8.28	8.28	0.00	6.52	6.52	0.00
Eco Tourism	0.88	0.00	0.88	0.39	0.00	0.39	0.78	0.00	0.78
Timber and Other Forest Produce Removed by Government Agency	95.80	95.00	0.80	75.74	75.05	0.69	69.47	68.81	0.66
Special Component Plan for Scheduled Castes-Forest Dept	0.50	0.50	0.00	0.51	0.51	0.00	0.48	0.48	0.00
Tribal Area Sub-Plan - Forest Department	0.50	0.50	0.00	0.52	0.52	0.00	0.48	0.48	0.00

Scheme Name	Allocation (BE+SE)	Productive Allocation	Admin/Salary Allocation	Release	Productive Release	Admin/Salary Release	Total Expenditure	Productive Exp	Admin/Salary Exp
Payments under the Karnataka Guarantee of Services Act	0.50	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00
Nature Conservation - Wild Life	30.75	7.50	23.25	24.16	5.13	19.03	19.59	3.21	16.36
Development of Protected Areas	1.00	1.00	0.00	1.02	1.02	0.00	0.71	0.71	0.00
Nature Conservation, Wildlife Habitat Management & Man-Animal Conflict Measures	124.56	92.00	32.56	99.89	67.47	32.42	63.89	42.17	21.72
Rehabilitation and Voluntary Acquisition of Land Program	10.00	10.00	0.00	10.00	10.00	0.00	8.12	8.12	0.00
Karnataka Zoo Authority	10.00	10.00	0.00	7.50	7.50	0.00	7.50	7.50	0.00
Compensatory Afforestation	22.67	22.67	0.00	12.52	12.52	0.00	9.47	9.47	0.00
Catchment Area Treatment Plan	0.59	0.59	0.00	0.59	0.59	0.00	0.50	0.50	0.00
Net Present Value of Forest Land	229.72	229.72	0.00	201.05	201.05	0.00	152.48	152.48	0.00
Interest	11.00	9.95	1.04	10.24	9.23	1.01	4.50	3.74	0.76
Others	7.00	7.00	0.00	4.58	4.58	0.00	3.27	3.27	0.00
Infrastructure Development	10.00	10.00	0.00	8.63	8.63	0.00	5.61	5.61	0.00
Railway Barricade to Prevent Man-animal Conflict	50.00	50.00	0.00	53.07	53.07	0.00	37.59	37.59	0.00
Flexi Fund	250.00	250.00	0.00	183.89	183.89	0.00	139.06	139.06	0.00
Afforestation on Forest Areas	162.00	162.00	0.00	132.99	132.99	0.00	87.52	87.52	0.00
Distribution of Saplings for Afforestation of Non-Forest Areas	87.00	87.00	0.00	72.30	72.30	0.00	56.59	56.59	0.00
Tree Park Program	23.00	23.00	0.00	17.25	17.25	0.00	7.31	7.31	0.00
Social Forestry	120.89	28.45	92.44	96.22	15.39	80.83	100.43	14.50	85.94
Social Forestry	95.11	95.11	0.00	86.87	86.87	0.00	84.48	84.48	0.00
Infrastructure Development	13.99	13.99	0.00	11.54	11.54	0.00	6.20	6.20	0.00
Environment Research Education & Innovative Projects	0.05	0.05	0.00	0.04	0.04	0.00	0.04	0.04	0.00

Scheme Name	Allocation (BE+SE)	Productive Allocation	Admin/Salary Allocation	Release	Productive Release	Admin/Salary Release	Total Expenditure	Productive Exp	Admin/Salary Exp
Environment Management & Policy Research Institute	4.86	2.40	2.46	3.66	1.20	2.46	3.60	1.20	2.40
Grant-in-Aid to State Environment Impact Assessment Authority(SEIAA)	0.52	0.20	0.32	0.52	0.20	0.32	0.52	0.20	0.32
Green-Expo Program	2.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00
Protection of Bio-diversity in the State	3.24	1.60	1.64	2.04	0.80	1.24	1.78	0.80	0.98
Grant-in-aid to Karnataka State Appellate Authority	0.45	0.35	0.10	0.45	0.35	0.10	0.46	0.36	0.10
Coastal Management	1.65	0.00	1.65	1.63	0.00	1.63	1.13	0.00	1.13
CSS - Sub-Mission on Agroforestry (SMAF)	14.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CSS - Project Elephant	8.00	8.00	0.00	1.71	1.71	0.00	1.27	1.27	0.00
CSS - Implementation & Management Action Plan for Mangroves	1.15	1.15	0.00	0.62	0.62	0.00	0.00	0.00	0.00
CSS - Forest fire prevention & Management schemes	3.30	3.30	0.00	0.70	0.70	0.00	0.00	0.00	0.00
CSS - National Bamboo Mission	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CSS - Integrated Development of Wild Life Habitats	28.00	28.00	0.00	4.86	4.86	0.00	4.11	4.11	0.00
CSS - Green India Mission	23.00	23.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CSS - Project Tiger	50.00	50.00	0.00	20.99	20.99	0.00	15.99	15.99	0.00
Total	2281.50	1460.94	820.55	1689.09	1102.41	586.69	1396.27	824.25	572.01

Source: Avalokana, PMI Division, Planning Department, Upto January 20th 2023.

APPENDIX 7.3

Details of Irrigation Potential Created Cumulative Area

(lakh hectares)

Project end/Year	Major and Medium Irrigation	Minor Irrigation (Surface)	Total
VII Plan (1985-1990)			
1985-86	12.27	8.59	20.86
1986-87	12.75	8.65	21.40
1987-88	12.87	8.71	21.58
1988-89	12.97	8.82	21.79
1989-90	13.09	8.92	22.01
Annual Plan			
1990-91	13.36	8.95	22.31
1991-92	13.80	9.00	22.80
VIII Plan			
1992-93	14.25	9.06	23.31
1993-94	14.94	9.13	24.07
1994-95	15.28	9.18	24.46
1995-96	15.77	9.25	25.02
1996-97	16.13	9.30	25.43
IX Plan			
1997-98	16.58	9.35	25.93
1998-99	16.93	9.38	26.31
1999-00	17.41	9.43	26.84
2000-01	18.12	9.51	27.63
2001-02	19.05	9.58	28.63
X Plan			
2002-03	19.70	9.65	29.35

Project end/Year	Major and Medium Irrigation	Minor Irrigation (Surface)	Total
2003-04	20.38	9.71	30.09
2004-05	21.17	9.75	30.92
2005-06	21.97	9.82	31.79
2006-07	23.21	9.61	32.82
XI Plan			
2007-08	23.64	9.69	33.33
2008-09	24.28	9.81	34.09
2009-10	24.56	9.87	34.43
2010-11	25.06	10.06	35.12
2011-12	25.56	10.28	35.84
XII Plan			
2012-13	26.03	10.51	36.54
2013-14	26.97	10.89	37.86
2014-15	27.85	10.97	38.82
2015-16	28.68	11.31	39.99
2016-17	28.86	11.56	40.42
2017-18	28.97	11.81	40.78
2018-19	29.19	11.98	41.17
2019-20	29.34	12.11	41.45
2020-21	29.81	12.20	42.01
2021-22	30.15	12.30	42.45
2022-23*	30.82	12.35	43.17

*(Anticipated)

APPENDIX 7.4

District-wise SWM in Karnataka

SI No	District	Waste Generation				Waste processed			Qty of legacy waste (Tonnes)
		Wet Waste (TPD)	Dry waste (TPD)	C&D waste (TPD)	Total MSW (TPD)	Wet waste (TPD)	City Compost generated (TPD)	Dry Waste (TPD)	
1	Bagalkote	110.90	87.80	18.50	231.00	87.7	11.4	79.5	57,520
2	Ballari	264.15	153.84	20.42	495.39	58	2.6	24.12	3,25,970
3	Belagavi	228.00	137.10	25.08	536.30	329.9	30.38	57.86	3,73,965
4	Bengaluru (R)	60.39	44.00	6.37	120.92	54.5	4.93	33.45	50,600
5	Bengaluru (U)	2399	1166.73	1002.22	4593	1257	71.5	615.3	10,760,200
6	Bidar	107.00	44.50	9.00	183.00	50	18	43	12,000
7	Bijapura	100.20	91.00	9.20	216.50	60	12.6	45	1,58,100
8	Chamrajnagar	34.52	26.18	8.73	75.38	6.7	0.36	0	55,057
9	Chikkaballpur	80.60	22.70	5.30	121.00	72	5.67	2.01	68,789
10	Chikkamagaluru	63.40	38.69	7.00	114.20	63.4	10.2	9.95	23,500
11	Chithradurga	64.50	40.00	12.00	137.00	45	3	10	1,50,000
12	Dakshina Kannada	232.87	167.26	11.06	416.79	305	27.86	38.75	6,03,500
13	Davanagere	120.00	72.00	16.00	208.00	53	8.4	15.3	3,31,000
14	Dharwad	256.54	162.51	17.88	438.78	166.25	21.16	1.38	5,16,438
15	Gadag	58.00	54.54	16.58	148.00	58	8.66	28	42,908
16	Hassan	73.50	50.95	14.75	149.50	32.3	10	2.4	1,48,200
17	Haveri	89.84	45.08	4.53	162.20	69.5	14.55	10.7	2,60,330
18	Kalaburgi	202.28	114.37	12.70	352.55	190.75	15.7	133.43	1,63,000
19	Kodagu	23.00	14.57	2.40	41.09	11	4.15	5.3	47,000
20	Kolar	141.77	51.11	8.01	228.67	51.5	11	27.08	4,927
21	Koppal	62.58	49.97	3.35	129.00	58.55	14	7.16	91,979
22	Mandya	54.85	50.71	5.36	117.18	29.7	1.55	1.28	81,207
23	Mysuru	281.00	154.00	59.00	553.00	296.8	37.4	88.81	3,14,380
24	Raichur	120.75	81.48	11.19	223.90	77.9	1.3	1.99	94,892
25	Ramanagara	68.78	38.15	5.34	129.60	26.5	5.5	15.6	69,000
26	Shivamogga	116.49	98.26	47.15	289.00	158.45	29.7	46.2	58,180
27	Tumakuru	134.82	61.48	6.85	252.24	156.3	16.7	24.62	2,34,000
28	Udupi	56.44	40.65	6.05	110.33	63.42	16	10.57	80,758
29	Uttar Kannada	87.90	50.75	3.25	152.00	106.6	8.4	57	50
30	Yadgir	49.66	27.40	6.60	94.80	16.05	2.1	12.05	21,760
TOTAL		5743.7	3237.77	1381.87	11044.3	4011.8	424.77	1447.81	1,51,99,210

APPENDIX 7.5

District-wise Sewage Management in Karnataka

Sl. No	District	Sewage generated (MLD)	Existing STPs					Under Construction STPs		Proposed STPs	
			No. of STP	Installed capacity (MLD)	Operation Capacity (MLD)	Gap in STP capacity utilization (MLD)	Gap in treatment (MLD)	No. of STP	Capacity of STP (MLD)	No. of STP	Capacity of STP (MLD)
1	Bagalkote	76.64	9	61.66	22.7	38.96	53.94	1	11.2	2	8.82
2	Ballari	77.42	3	55	42	13	21.72	3	8.55	5	18.53
3	Vijayanagara		4	43.79	13.7	30.09		0	0	0	0
4	Belagavi	172.44	5	29.8	8.2	21.6	164.24	10	82.04	12	57.8
5	Bengaluru (R)	57.48	1	12	7	5	50.48	1	8.52	1	1.82
6	Bengaluru (U)	1440	38	1533.9	1215	318.9	225	17	139	0	0
7	Bidar	53.42	3	40.52	8.8	31.72	44.62	1	7	0	0
8	Bijapura	68.28	6	43.96	35.42	8.54	32.86	2	12.61	0	0
9	Chamrajnagar	32.01	4	22	11.8	10.2	20.21	0	0	0	0
10	Chikkaballpur	39.36	3	15.1	10.6	4.5	28.76	2	4.85	2	13
11	Chikkamagaluru	35.69	2	22.64	14.64	8	21.05	0	0	0	0
12	Chithradurga	52.04	1	20	18	2	34.04	1	3.3	0	0
13	Dakshina Kannada	65.53	7	97.75	42	55.75	23.53	1	0.01	4	6.06
14	Davanagere	76.64	6	81.1	54.4	26.7	22.24	0	0	1	0
15	Dharwad	114.96	8	77.5	40.79	36.71	74.17	0	0	8	22.16
16	Gadag	33.39	3	23.56	10.08	13.48	23.31	0	0	1	3
17	Hassan	67.06	6	32.3	25.3	7	41.76	6	29.85	3	4.5
18	Haveri	50.1	4	24.71	11.5	13.21	38.6	0	0	0	0
19	Kalaburgi	93.88	5	93.35	66.1	27.25	27.78	2	14.83	3	13.73
20	Kodagu	17.39	0	0	0	0	17.39	2	11	0	0
21	kolar	76.64	8	23.85	12.17	11.68	64.47	2	13	1	1
22	Koppal	43.59	1	14	12.6	1.4	30.99	0	0	1	4.51
23	Mandya	67.06	8	39.27	28.72	10.55	38.34	5	5.65	7	7.55
24	Mysuru	134.12	11	189.8	141.24	48.56	-7.12	10	16.93	0	0
25	Raichur	70.89	4	45.5	21.2	24.3	49.69	0	0	3	21.82
26	Ramanagara	38.32	3	17.55	11.32	6.23	27	0	0	5	6.86
27	Shivamogga	76.64	6	59.74	31.37	28.37	45.27	1	9	4	0.62
28	Tumakur	95.8	4	43.55	28.75	14.8	67.05	4	29.68	6	12.22
29	Udupi	47.9	2	15.5	6	9.5	41.9	0	0	4	3.31
30	Uttar Kannada	45.07	3	5.75	5.75	0	39.32	10	28.68	4	12
31	Yadgir	36.83	1	3	1	2	35.83	0	0	6	26.77
TOTAL		3356.59	169	2788.15	1958.15	830	1398.44	81	435.7	83	246.08

*MLD stands for Million Litres per Day

APPENDIX 7.6

Details of sewage and municipal solid in the 17 Polluted River Stretches(PRS) ULBs of Karnataka

Sl. No	Priority	River Name/Length of the polluted Stretch (Km)	District	ULBs	Sewage generation (MLD)	STP capacity (MLD)	Capacity utilization (MLD)	Gap in treatment (MLD)	MSW generated (TPD)	MSW Processed (TPD)	MSW Gap (TPD)	
1	PIII	Arkavathi (55 Km)	Ramanagara	Ramanagara	10.27	7.56	6.24	4.03	40	10	30	
				Kanakpura	6.4	6.29	3.3	3.1	24	4	20	
				Bengaluru	576	576	385	191	909	525.2	383.8	
2	PIII	Lakshman teertha (10 Km)	Mysuru	Hunsuru	6.05	3.9	3.9	2.15	23	18	5	
				3	PIII	Malaprabha (80 Km)	Belagavi	Ramdurga	4.99	3.3	0	4.99
	Khanapura	2.32	0	0				2.32	6	0.5	5.5	
				Savadatti	4.94	0	0	4.94	15	4	11	
				MK Hubli	1.61	0	0	1.61	3	0	3	
				Munnawali	2.78	0	0	2.78	10	2	8	
4	PIII	Tunga bhadra (60 Km)	Davangere	Harihara	10.5	18	4	6.5	35	5	30	
				Davanagere	54.87	59.8	49.5	5.37	169	40	129	
				Ranibennur	13.42	15	10	3.42	60	12	48	
				Honnali	2.37	3.3	0.9	1.47	7	0.3	6.7	
				Huvina-hadgali	3.8	4.27	3.5	0.3	14.5	2	12.5	
5	PIV	Bhadra (10 Km)	Shivamogga	Bhadravathi	16.74	14.03	6.85	9.89	50	20	30	
6	PIV	Cauvery (50 Km)	Chamraja nagara	Kollegala	7.21	9	6	1.21	21	1	20	
				Mandya	Srirangapatna	3.8	3.6	3.02	0.78	11	2	9
				Mysuru	bannuru	2.76	2.25	1	1.76	9	1	8
					T-Narsipura	3.91	5.5	3.67	0.24	10	0	10
7	PIV	Kabini (9 Km)	Mysuru	Nanjanagudu	5	7	3.3	1.7	26	12	14	
8	PIV	Kagina (10 Km)	Kalburgi	Shahbad	6.11	0	0	6.11	20.04	12.59	7.45	
				9	PIV	Kali (10 Km)	UK - Dandeli	Karwar	9.74	1.5	1.5	8.24
	Dandeli	8.5	0	0				8.5	18	12	6	
10	PIV	Krishna (189.57 Km)	Chikkodi	Ugarakhurda	2.85	0	0	2.85	12	0	12	
				Vijayapura	Kudachi	2.78	0	0	2.78	6.5	1.5	5
				Raichur	Examba	1.97	0	0	1.97	4.5	0	4.5

Sl. No	Priority	River Name/ Length of the polluted Stretch (Km)	District	ULBs	Sewage generation (MLD)	STP capacity (MLD)	Capacity utilization (MLD)	Gap in treatment (MLD)	MSW generated (TPD)	MSW Processed (TPD)	MSW Gap (TPD)	
				Chinchilli	2.64	0		2.64	4.75	0	4.75	
				Chikkodi	4.83	5.8	2.7	2.13	14.5	2.5	12	
				Ainapura	2.27	0	0	2.27	5	0.8	4.2	
				Sadalaga	3	3.72	0	3	8.43	2.5	5.93	
11	PV	Asangi - Krishna (33 Km)	Bagalkote	Rabbakavi-Bannahatti	9.71	9.2	2	7.71	27	13.6	13.4	
				Teradal	3.3	0	0	3.3	10	1.5	8.5	
12	PV	Shimsha (80 Km)	Mandya	Maddur	4.51	3.5	2.4	2.11	13	3	10	
13	PV	Bhima (160 Km)	Kalburgi	Jewargi	3.25	3.25	0	3.25	10	4.08	5.92	
14	PV	Netravathi & Kumaradhara (55 Km)	DK	Uppinangdi	2	0	0	2	1.5	0.9	0.6	
				Panja&Kadaba	2	0	0	2	3	1	2	
					Bantwala	5	0	0	5	14	8	6
					Beltangdi	1	0	0	1	3	0	3
15	PV			DK	Subramanya	1.5	2.6	1	0.5	1.1	0.66	0.44
16	PV	Tunga (10 Km)	Shivamogga	Shivamogga	52	40.71	24.52	27.48	169	161	8	
17	PV	Yagachi (60 Km)	Hassan	Hassan	12.17	10	9.3	2.87	63	28	35	
				Belur	3.38	2.7	2.4	0.98	3	0	3	
					884.25	821.78	536.00	348.25	1895.82	935.74	960.08	

8.1 INTRODUCTION

Karnataka has been spearheading the growth of Indian industry, particularly in terms of high-technology industries in the areas of electrical and electronics, information & communication technology (ICT), biotechnology and, more recently, nanotechnology. The industrial structure of Karnataka presents a blend of modern high-tech capital goods and knowledge intensive industries on the one hand and traditional consumer goods industries on the other.

As per the 7th Economic Census (Provisional) there are about 40,39,305 number of establishments by nature of economic activity (excluding Government/PSU establishments), of which Service Sector has 18,33,860 has the highest followed by Trading (7,45,565), Manufacturing Sector(5,03,901), Construction (76,243) and Electricity (48,831).

Bengaluru Urban district has 78,24,646 number of establishment units, which is the highest followed by Belagavi (2,99,997), Tumakuru (2,28,542), Dakshina Kannada (2,08,969) and Hassan (2,07,483). Yadgiri is the most backward district with only 40,162 establishments. There are about 9,57,817 rural employed workers and 22,50,583 of employed workers in the urban areas, totaling to 32,08,400.

The contribution of the Industry Sector to the state GDP is 20% (Manufacturing Sector: 13%, Gas, Electricity and water supply and other utility services: 7%). The average domestic product of the industrial sector for the year 2019-20 is Rs. 10,47,666 lakhs. It is to note that only 6 districts namely Bengaluru urban, Belagavi, Dakshina Kannada, Ballari, Tumakuru and Udupi districts have a GDP higher than the state average and the remaining districts are lower than the state average. The following measures can be taken to increase the District Domestic Product of the districts which are having less than average state District Domestic Product.

On an average there are 5029 industrial units per 1000 sq km geographical area of the state. Other than Bengaluru urban, Bengaluru rural, Belagavi, Dharwad, Davanagere, Dakshin Kannada, Mysuru and Kolar districts in other districts the proportion is less. In all the 7 districts under Kalyan Karnataka this proportion is below state average. The average domestic product of the service sector is 32,54,415 lakhs and only 4 out 30 districts viz. Bengaluru urban, Belagavi, Dakshina Kannada and Mysuru have a GDP higher than the state average. The remaining districts are having less than the state average domestic product.

As per SDG India Index 2020 of NITI Aayog, Karnataka has ranked 6th among states with respect to SDG 9 on Industry, Innovation, and Infrastructure with a score of 64 out of 100.

Table 8.1: Performance of Karnataka vs India and performer States- Industry, Innovation and Infrastructure (SDG 9)

Indicators / States	Gujarat	TN	Punjab	Karnataka	India	Target
Manufacturing employment as a Percentage of total employment	20.84	18.74	19.39	11.74	12.07	20
Percentage of targeted habitations connected by all-weather roads under Pradhan Mantri Gram Sadak Yojana (PMGSY)	100	100	100	100	97.65	100
Percentage Share of GVA in manufacturing to total GVA (current prices)	36.74	20.58	13.78	15.88	16.1	25
Score as per Logistics Ease Across Different States (LEADS) report	3.62	3.4	3.46	3.37(40)	3.18	5
Innovation score as per the India Innovation Index	23.63	37.91	22.54	42.5	35.59	100
Number of mobile connections per 100 persons (mobile tele density)	94.71	101.75	122.19	100.28	84.38	100
Number of internet subscribers per 100 population	64.79	65.68	84.35	69.35	55.41	100
Score (Rank)	72(1)	71(2)	69(3)	64(6)	55	100

Figures in the parenthesis indicate rank among States

Several initiatives have been taken by the State Government to improve the SDG indicators which has boosted the industrial growth. Industrial sector GDP was Rs. 389915 Cr with the growth rate of 24.4 in 2021-22 which has increased to Rs. 428721 Cr with a growth rate of 10.8% in 2022-23. Performance of Karnataka vs India and performer States- Industry, Innovation and Infrastructure (SDG 9) is given in **Table 8.1**.

8.2 ALL INDIA QUICK ESTIMATES OF INDEX OF INDUSTRIAL PRODUCTION

All-India Quick Estimates of Index of Industrial Production (IIP) with Base Year 2011-12 stands at 137.1 for the month of November 2022. The indices of Industrial Production for the Mining, Manufacturing and Electricity sectors for the month of November 2022 stand at 122.7, 136.7 and 166.7 respectively. These Quick Estimates will undergo revision in subsequent releases as per the revision policy of IIP. All India Quick Estimates of Index of Industrial Production and Use-Based Index for the month of November 2022 with base year 2011-12 are presented in **Table 8.2 and 8.3**.

Table 8.2 : Index of Industrial Production – Sectoral

(Base:2011-12=100)

Month Weight	Mining (14.372472)		Manufacturing (77.63321)		Electricity (7.994318)		General (100)	
	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
April	107.6	116.6	124.6	131.6	174.0	194.5	126.1	134.5
May	108.3	120.4	111.5	134.6	161.9	199.9	115.1	137.8
June	105.5	113.7	121.2	136.8	169.1	196.9	122.8	138.3
July	104.6	101.1	131.0	135.0	184.7	188.9	131.5	134.4
August	103.6	99.6	131.9	131.3	188.7	191.3	132.4	131.5
September	95.1	100.0	131.9	134.8	167.9	187.4	129.5	134.0
October	109.8	112.5	136.4	128.3	167.3	169.3	135.0	129.3
November*	111.8	122.7	128.9	136.7	147.9	166.7	128.0	137.1
Growth over the corresponding period of previous year#								
November*	4.9	9.7	0.3	6.1	2.1	12.7	1.0	7.1
April - Nov	18.2	4.7	18.7	5.0	10.2	9.8	17.6	5.5

*Figures for November 2022 are Quick Estimates.

Note: Indices for the months of Aug 2022 and October 2022 incorporate updated production data.

#The growth rates over corresponding period of previous year are to be interpreted considering the unusual circumstances on account of COVID 19 pandemic since March 2020.

Source: MOSPI, National Statistical Office, GoI, New Delhi.

As per Use-based classification, the indices stand at 132.5 for Primary Goods, 99.1 for Capital Goods, 145.6 for Intermediate Goods and 159.6 for Infrastructure/Construction Goods for the month of November 2022. Further, the indices for Consumer durables and Consumer non-durables stands at 112.0 and 161.1 respectively for the month of November 2022.

Table 8.3: Index of Industrial Production Use-based Classification

(Base:2011-12=100)

Month	Primary goods (34.048612)		Capital goods (8.223043)		Inter-mediate goods (17.221487)		Infra-structure/Construction goods (12.338363)		Consumer durables (12.839296)		Consumer non-durables (15.329199)	
	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
April	126.5	139.5	79.0	88.5	139.6	149.5	144.0	149.7	103.3	110.7	140.0	138.9
May	122.8	144.7	61.9	94.9	129.1	151.7	129.5	153.3	71.6	113.9	135.6	137.5
June	122.4	139.3	81.2	104.4	132.7	146.6	137.9	150.8	100.1	125.3	141.8	145.9
July	128.5	131.7	92.4	97.1	143.7	149.0	144.4	151.3	118.7	121.4	145.9	141.7
August	127.2	129.4	91.1	95.0	144.7	146.6	148.3	152.8	121.6	116.2	148.3	134.9

Month	Primary goods		Capital goods		Inter-mediate goods		Infra-structure/ Construction goods		Consumer durables		Consumer non-durables	
Weight	(34.048612)		(8.223043)		(17.221487)		(12.338363)		(12.839296)		(15.329199)	
Year	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
September	117.3	128.4	93.3	103.9	142.9	145.4	145.0	156.2	131.0	126.8	147.3	138.0
October	128.5	131.1	89.8	88.3	147.2	143.3	153.6	155.3	129.5	106.5	149.7	129.7
November*	126.5	132.5	82.1	99.1	141.3	145.6	141.5	159.6	106.6	112.0	147.9	161.1
Growth over the corresponding period of previous year#												
November*	3.5	4.7	-2.6	20.7	2.1	3.0	3.1	12.8	-5.7	5.1	-0.8	8.9
April - Nov	13.2	7.7	29.3	14.9	24.1	5.0	27.6	7.4	24.6	5.7	6.1	-2.5

*Figures for November 2022 are Quick Estimates.

Note: Indices for the months of Aug 2022 and October 2022 incorporate updated production data.

#The growth rates over corresponding period of previous year are to be interpreted considering the unusual circumstances on account of COVID 19 pandemic since March 2020.

Source: MOSPI, National Statistical Office, GoI, New Delhi.

8.3 ORGANIZED MANUFACTURING SECTOR

The Annual Survey of Industries (ASI) presents detailed statistics on the manufacturing sector of the organized industrial sector. **Table 8.4** presents ASI statistics for registered factories for 2018-19 and 2019-20 for Karnataka and All-India. Karnataka accounted for 5.75% of the total registered factories in 2019-20 in the country. The contribution of registered factories of Karnataka stood at 6.18% of total fixed capital, 6.20% of total output and 7.16% of Gross Value Added in 2019-20. The total registered factories in Karnataka has marginally increased in 2019-20 as compared to 2018-19. However, the relative contribution of Karnataka's registered factories to the national industrial performance in terms of total input and output has marginally decreased, working capital, fixed capital, gross and net value added and profits has been increased during the same period.

Table 8.4: Selected Key indicators of Registered Factories: Karnataka & All-India

(Rs. crore)

Particulars	2018-19			2019-20		
	Karnataka	India	% Share	Karnataka	India	% Share
Industries (No.)	13,789	2,42,395	5.69	14,169	2,46,504	5.75
Fixed Capital	2,07,122	34,66,070	5.98	2,24,928	36,41,352	6.18
Working Capital	61,442	8,08,665	7.60	74,200	8,83,301	8.40
Total Output	5,79,082	92,81,799	6.24	5,56,877	8,98,330	6.20
Total Input	4,73,321	77,43,780	6.11	4,50,468	74,97,556	6.01

Particulars	2018-19			2019-20		
	Karnataka	India	% Share	Karnataka	India	% Share
Gross value added	1,05,761	15,38,019	6.88	1,06,409	14,85,745	7.16
Net value added	88,475	12,76,466	6.93	87,926	1,21,248	7.25
Profit	37,144	5,56,523	6.67	33,303	4,69,473	7.09

Source: Central Statistics Office (CSO), GoI

According to ASI2019-20 with NIC-2008, the major industrial groups in the registered factory sector of Karnataka in terms of value of output are:

- (i) Manufacture of Food Products – 15.92%
- (ii) Manufacture of Basic Metals – 14.04%
- (iii) Manufacture of Coke and refined petroleum products – 12.44%
- (iv) Manufacture of Motor vehicle, trailers & semi-trailers – 6.74%
- (v) Manufacture of Machinery and equipment – 5.78%
- (vi) Manufacture of Chemical and Chemical products – 5.53%
- (vii) Manufacture of Electrical equipment – 4.70% and
- (viii) Manufacture of Wearing Apparels – 4.40%.

These eight industry groups together accounted for more than 72% of the total value of output of registered factories of Karnataka in 2019-20. Details are presented in **Appendix 8.1**.

The important indicators as per registered factory based on ASI results for 2018-19 and 2019-20 are presented in **Table 8.5**. Karnataka compares favorably with all-India in terms of all the indicators – per factory employment, output and gross value added. Though registered factories of Karnataka, on an average are more capital intensive than that of all-India, they are also more employment-intensive and generated more value added as well as output.

Table 8.5: Important Indicators per Factory

Indicator	Unit	2018-19		2019-20	
		Karnataka	India	Karnataka	India
Investment in fixed capital	Rs.Lakh	1502.08	1429.93	1587.47	1477.20
Employment	No.	78.04	67.16	76.30	67.44
Value of output	Rs. Lakh	4199.59	3829.20	3930.25	3644.28
Gross Value Added	Rs. Lakh	766.99	634.51	751.00	602.73

Source: Central Statistics Office (CSO), GoI

The selected economic indicators per worker for Karnataka and All-India are given in **Table 8.6**. Annual wages per worker reveal that Karnataka was better-off than the all-India, while the State lagged in total output and input per worker and Net value added with all India in 2019-20.

Table 8.6: Selected Economic Indicators of Industries (2015-16 to 2019-20)

Year	Labour productivity (Net value added per rupee in wages)		Total input per worker (Rs. Lakh)		Total output per worker (Rs. Lakh)		Annual wages per worker (Rs.)	
	Karnataka	India	Karnataka	India	Karnataka	India	Karnataka	India
2015-16	5.27	6.87	46.70	50.19	56.94	61.62	1,58,744	1,40,086
2016-17	5.66	6.60	48.85	50.57	60.61	62.30	1,76,598	1,48,794
2017-18	5.54	6.38	51.50	54.03	63.83	66.03	1,89,875	1,57,718
2018-19	5.22	5.92	50.66	51.61	68.74	72.52	2,01,374	1,68,581
2019-20	4.94	5.30	53.64	57.42	66.32	68.79	2,11,961	1,75,297

Source: Central Statistics Office (CSO), GoI

8.4 MICRO, SMALL & MEDIUM ENTERPRISES

- ❑ Invest Karnataka 2022 held on 2nd, 3rd and 4th of November 2022 at Bengaluru has been very successful in attracting huge investment. About 20,000 delegates have participated in this 3-day convention including delegations from Japan, Germany, France, Australia, South Korea and Netherlands. A total investment of Rs. 9,81,784 crore has flowed into the state from the Invest Karnataka Event. Out of this, 608 projects with a capital investment of Rs. 2,83,415 crore have already been approved in the State Level Clearance Committee meetings. MoU signed for 57 projects worth of Rs. 5,41,369 crore. In addition, Adani Group and Jindal Group have announced a total capital investment of Rs. 1,57,000 crore in the state. More than 90 percent of the contracted projects are implemented outside Bengaluru in Tire -2 cities.
- ❑ The state of Karnataka has emerged as an attractive Investment Hub as a result of effective steps taken along with the Industrial Policy 2020-25 initiated. In the ranking list of “Ease of Doing Business” – SBRAP 2020 conducted by DPIIT, the state has topped in the national level overcoming from its 17th position held earlier. Karnataka Udyog Mitra that works under Directorate of Industries and Commerce has also achieved as the leading investment promotion agency in the national level.
- ❑ A total of 7.38 lakh micro, small and medium industries are registered in the state on the Government of India’s Udyam web portal. Out of these there are 7,08,929 micro industries, 27,355 small industries and 2,426 medium industries. About 68.72 lakh people are employed in MSME sector. About 695 large and mega industries are working with Rs. 2.36 lakh crore capital investment and providing employment opportunities to 4.95 lakh people.

- ❑ During the year 2022-23 under Central sponsored schemes – under Prime Minister’s Employment Generation Programme (PMEGP) a subsidy of Rs. 102.92 crores is spent for 3607 beneficiaries with bank loan assistance. Under the Cluster Development Programme (MSE-CDP) 10 clusters have been assisted with Rs. 3.97 crore grants.
- ❑ During the year 2022-23 for MSMEs sector, a total of Rs. 474.27 crores budget have been provided out of which Rs. 262.67 crores spent till date. Among this a subsidy of Rs. 95.90 crore for 562 MSME industrial units and Rs. 43.80 crores for 17128 artisans of Khadi, Coir and Handicrafts sectors are given.
- ❑ Under SCP Rs. 96.29 crores for 376 beneficiaries and under TSP programmes Rs. 12.31 crores for 173 beneficiaries have been spent for providing subsidized industrial sites, soft seed subsidies etc.
- ❑ During the year 2022-23 for Large and Medium sector, a total of Rs. 1165.14 crore budget have been provided out of which Rs.396.89 crore spent till date. Among this Rs. 266.35 crores of VAT loan for 14 large industrial units and Rs. 25.00 crores of subsidies for 14 units have been spent.
- ❑ During the year 2022-23 SLSWCC has approved 291 projects with capital investment of Rs. 13597.08 crores and expected employment opportunity for 47,248, SHLCC, has approved 38 projects with capital investment of Rs. 2,20,309.30 crore and expected employment opportunity for 1,37,282.
- ❑ Under the new schemes for the year 2022-23, “Central Institute of Petrochemicals Engineering and Technology (CIPET) center will be started at Bidar at a cost of Rs. 90 crore in collaboration with the Central Government”.
- ❑ “FMCG Cluster: Hubli-Dharwad is economically much anticipated twin city. In order to establish FMCG cluster in the presence of Hon’ble Chief Minister 16 important FMCG agreements have been made with industrialists for capital investment of Rs. 1,275 crore on 28.10.2022. Under FMCG cluster programme special subsidies and incentives are given to industries investing in the cluster. With the start of this cluster, more employment opportunity will be created for youths of Kittur Karnataka and Kalyan Karnataka regions.

Table 8.7: Number of registered Micro, Small and Medium units and employment for the year 2021-22 and upto 30 November 2022 as per Udyam registration

Sl. No.	District	Micro		Small		Medium		Total Units	Total Employment
		Units	Employment	Units	Employment	Units	Employment		
1	Bagalkote	13588	138686	239	3076	14	603	13841	142365
2	Ballari	15736	146926	636	11159	44	2425	16416	160510
3	Belagavi	40865	274922	770	17155	37	2805	41672	294882
4	Bengaluru (Rural)	30335	327466	698	24233	42	2392	31075	354091
5	Bengaluru (Urban)	150401	1113274	6084	223534	510	84730	156995	1421538
6	Bidar	10328	96334	222	2911	14	485	10564	99730
7	Chamarajnar	5117	28809	120	2032	1	9	5238	30850

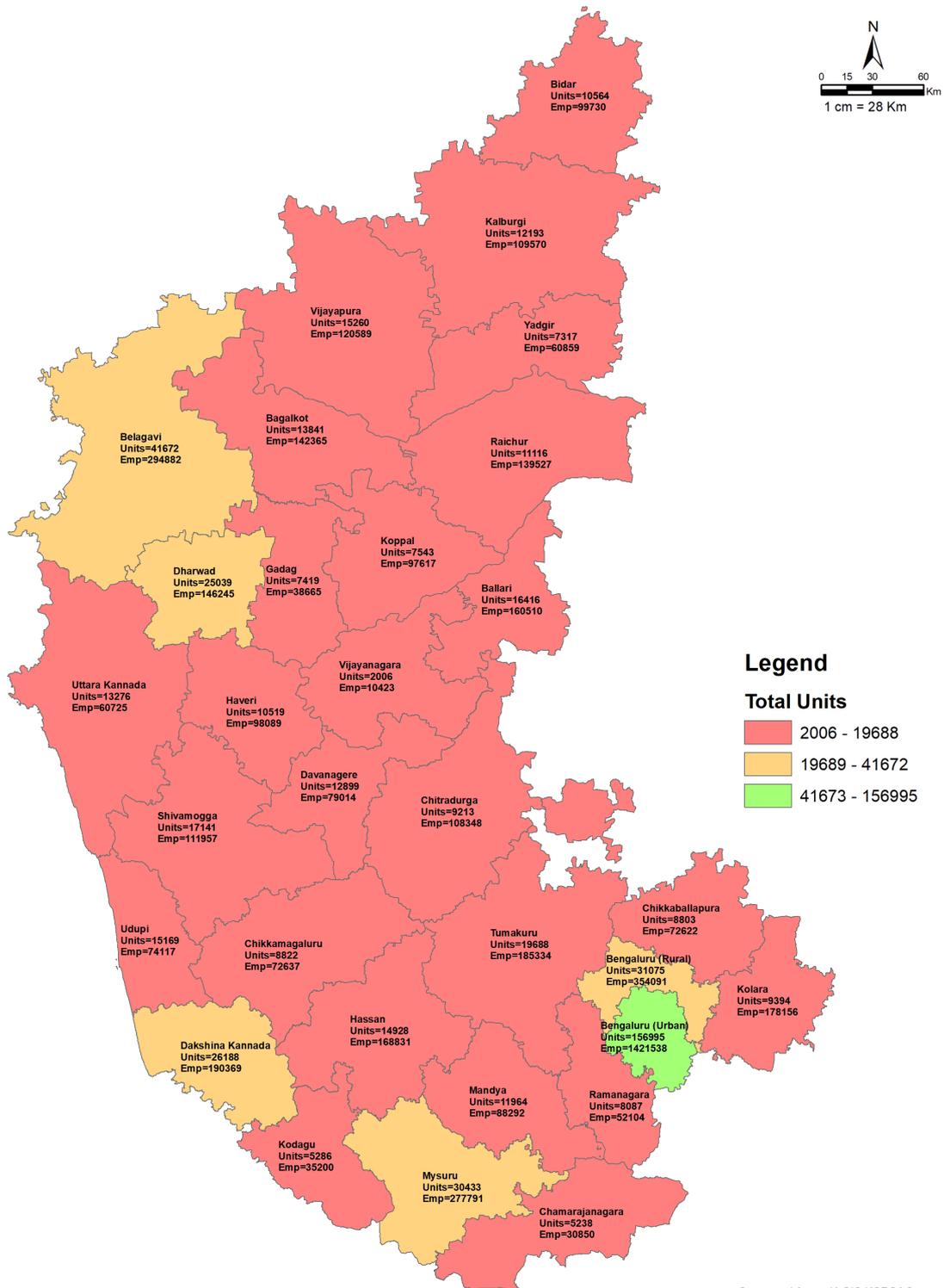
Sl. No.	District	Micro		Small		Medium		Total Units	Total Employment
		Units	Employment	Units	Employment	Units	Employment		
8	Chikballapur	8595	69790	202	2580	6	252	8803	72622
9	Chikkamagaluru	8552	68532	261	4005	9	100	8822	72637
10	Chitradurga	8933	104747	266	2972	14	629	9213	108348
11	Dakshin Kannad	25420	165839	727	20977	41	3553	26188	190369
12	Davangere	12512	72870	373	5800	14	344	12899	79014
13	Dharwad	24315	130229	677	12915	47	3101	25039	146245
14	Gadag	7215	36719	201	1829	3	117	7419	38665
15	Hassan	14476	161132	441	7333	11	366	14928	168831
16	Haveri	10217	93967	289	3720	13	402	10519	98089
17	Kalaburagi	11737	103169	441	6087	15	314	12193	109570
18	Kodagu	5136	33253	144	1482	6	465	5286	35200
19	Kolar	9052	170878	325	5865	17	1413	9394	178156
20	Koppal	7188	92068	343	4922	12	627	7543	97617
21	Mandya	11689	84613	272	3647	3	32	11964	88292
22	Mysuru	29565	245479	826	27207	42	5105	30433	277791
23	Raichur	10530	132931	554	5932	32	664	11116	139527
24	Ramanagara	7899	47757	183	4073	5	274	8087	52104
25	Shivamogga	16658	101935	466	9370	17	652	17141	111957
26	Tumakuru	19100	171964	556	10844	32	2526	19688	185334
27	Udupi	14741	61334	414	10927	14	1856	15169	74117
28	Uttar Kannad	13038	56762	232	3677	6	286	13276	60725
29	Vijayanagar	1940	9609	66	814	-	-	2006	10423
30	Vijayapura	14846	109372	393	10010	21	1207	15260	120589
31	Yadgir	7135	58783	175	1867	7	209	7317	60859
	Total	566859	4510149	17596	452955	1049	117943	585504	5081047

Source : Udyam Registration Portal, GoI

The number of registered Micro, Small and Medium units and employment for the year 2021-22 and this year upto 30 November 2022 as per Udyam registration are given in **Table 8.7**.

Ever since Udyogadhar web portal run by Govt. of India has been transformed into Udyam registration web portal from the year 2020, a total of 7.38 lakhs micro, small and medium industries are registered in the state. In the year 2021-22 upto the month of November 2022, a total of 5.85 lakhs units are registered. Out of these there are 5,66,859 micro industries, 17,596 small industries and 1,049 medium industries registered. This has resulted into larger number of employability in the state. About 50.81 lakh people are employed in MSME sector alone. Apart from this there is also a good number of employments created in Large and Mega industries sector. There are about 695 large and mega industries with total capital investment of Rs. 2.36 lakh crore providing employment opportunities to 4.95 lakh people.

The Number Of Registered MSME Units and Employment upto November 2022 as per the Udyam Registration



Emp=Employment

Prime Minister's Employment Generation Programme (PMEGP)

Under this scheme, the loan up to Rs. 50.00 lakh for manufacturing sector and upto Rs. 20 lakh for Service Sector is extended through various banks. Progress made under PM Self Employment Schemes till November 2022 Target is Rs. 15124.00 lakhs, 5215 projects and 41720 employment and 3489 projects, 27912 employment generated, 5086 persons trained and Rs. 9980.26 lakhs spent.

Micro, Small enterprises – Cluster Development Programme (MSE-CDP)

11 Clusters implemented are located in Dharwad, Gulbarga, Vijaypur, Bidar, Belagavi, Bengaluru, Ramanagar, Uttara Kannada and Chitradurga. Cluster Development Programmes of Gol undertaken in the state upto November 2022 Rs. 9810.93 lakhs worth 11 projects have been implemented and Rs.14980.00 lakhs have been approved.

Incentives and concessions to MSME units

During the year 2022-23 in the MSMEs sector, a total of Rs. 474.27 crores of allotment in the budget have been provided out of which Rs. 262.67 crores are spent till the month of November 2022. Among this, Rs. 187.81 Crores have been allotted to sanction investment promotion subsidy and other incentives, Rs. 95.36 Crores spent so far. Rs. 43.80 crores utilized for wage incentives, MDA etc. benefiting 17128 artisans of Khadi, Coir and Handicrafts sectors till 30th November 2022.

Under SCP programmes, Rs. 96.29 crores for 376 beneficiaries and under TSP programmes Rs. 12.31 crores for 173 beneficiaries have been spent for providing subsidised industrial sites, soft seed subsidies etc. Financial Assistance provided to Micro, Small & Medium Industries till November 2022 Rs. 9535.99 lakhs have been provided.

Private Industrial Parks

Government proposes to encourage establishment of industrial areas and estates in the State either by private investors or through PPP model. Knowledge Based Industries / Flatted Factories, Logistics, Multi / Sector Specific Industrial Parks and Integrated Industrial Parks are encouraged. These would be approved by SHLCC / SLSWCC.

8.5 SELECTED INDUSTRIAL SECTORS

Status of Implementation of Food parks:

Food Karnataka Ltd., has been nominated as the nodal agency and responsible for the implementation of the following Food Parks in the State.

- ❑ **M/s. Innova Agri Bio Tech Park Limited, Malur:** This Food Park has been developed in an area of 87 acres of land in KIADB Industrial Area Malur, Kolar District. To compliment the activities in addition to the food processing, a gamma irradiation facility has been installed and accredited from USFDA. 50.48 acres in the park has been allotted to 22 food processing units. An amount of Rs. 400 lakhs each (Total Rs. 800 Lakhs) has been released by the State and Central Governments. Totally 14 food processing units are currently functioning in the park. Mangoes are being exported to USA and Australia by utilizing the Gamma Irradiation facility. Other Common

Facilities include Cold Storage, Pack house, Dry Warehouse, Sorting & Grading Lines, Ripening Chambers, Hot Water Treatment Facility & Food Testing Laboratory.

- ❑ **M/s. Green Food Park Limited, Bagalkote:** This Food Park is being developed in an area of 100 acres of land at Navnagar KIADB Industrial Area, Bagalkote. 52.5 acres of land allotted for 18 food processing units/ companies. An amount of Rs. 700 lakhs (State: Rs. 400 lakhs and Central: Rs. 300 lakhs) has been released. Totally 06 food processing units are currently functioning in the park. Common Facilities like Cold Storage , Dry Warehouse, Washing & Grading Machines & Weighbridge are available in the Food Park.
- ❑ **M/s.Akshaya Food Park Limited, Hiriyur:** The Food Park has been developed in an area of 106 acres and 37 guntas of land at Huchavanahally village, Hiriyur Taluk, Chitradurga District. An amount of Rs. 400 lakhs un secured loan has been disbursed by State and Central Government. Totally 08 food processing units are currently functioning in the park. Facilities like Cold Storage , Dry Warehouse, Grading & Packing Lines, Pomegranate Processing unit, Patchouli Oil Extraction Unit, Weighbridge ,Business Incubation Centre, Quality Assurance & Product Development lab are available in the Food Park.
- ❑ **M/s. Jewargi Agro Food Park Limited, Jewargi:** This Food Park is being developed in an area of 105 acres of land. An amount of Rs. 796 lakhs (State: Rs. 400 lakhs and Central: Rs. 396 lakhs) has been released. Totally 07 food processing units are currently functioning in the park. Common Facilities like Cold Storage, Dry Warehouse, Washing & Grading Machines, Testing Laboratory & Weighbridge are available in the Food Park.
- ❑ **Food Parks under the State Scheme, Vijayapura :** As per 2021-22 Budget announcement, it is proposed to Set up of a new food Park under AtmaNirbhar Bharat in Vijayapura district. In this regard a grant of Rs. 4.21 crore has already been released and the land development and compound wall construction work is in progress. At present steps are being taken to start industrial layout development work. In the 75 acre area of the proposed food park, common infrastructure facilities such as primary processing facility, cold storage unit, Weigh Bridge, warehouse etc. will be provided for the benefit of the farmers and entrepreneurs of this region. It is proposed to allocate plots on Lease cum Sale basis for setting up units for food processing entrepreneurs after providing basic infrastructure like road, water, electricity etc.

TEXTILES INDUSTRIES

Budget allotment for the year 2022-23 is Rs. 34183.47 lakhs, an amount of Rs. 19469.38 lakhs has been released and expenditure of Rs. 15641.40 lakhs upto November 2022 for implementation of various schemes.

The State's production and imports of silk yarn till August 2022 is 7,759 MT and import is 762 MT. Financial assistance provided to the Sericulturists is Rs. 6786.719 lakhs and for reelers Rs. 517.491 lakhs. During 2021-22 mulberry silk production in Karnataka was 11191.139 MTs.

Karnataka Information Technology and Biotechnology Services

The Information Technology Revolution in Karnataka has begun initially in Bengaluru. Achievements in IT & BT sector from 2019-20 to 2022-23 (Upto November 2022) are presented in **Table 8.8**.

Table 8.8: Achievements in IT & BT Sector for the year 2019-20 to 2022-23
(up to November 2022)

Particulars	Units	2019-20	2020-21	2021-22	2022-23 (up to Nov22)
Software Exports	Rs.in crore	1994473.00	214315.00	266263.00	203745.00
No STP Units Approved	Number	159	129	169	123
Investment from STP Units Approved	Rs.in crore	1168.27	1804.97	569.35	313.5
Nos. of Foreign Equity Companies	Number	101	84	109	92
Investment from Foreign Equity	Rs.in crore	733.27	1751.65	511.68	202.51
Hardware Exports	Number	4752.00	5213.00	5921.00	3140.00
Investment from Hardware Units	Rs.in crore	721.81	0	0	0.97
No of SME's Companies	Number	58	45	59	30
Investment from SME's Companies	Rs.in crore	435	53.32	56.67	34.57
BPO Exports	Rs.in crore	2636.88	4053.54	6110.78	N/A

Source: Software Technology Parks of India, Bengaluru

Note: 1) The Software Export details provided from FY 2016-17 onwards includes the details of STP units and Unit registered for Softex Certification.

2) BPO Export from FY 2019-20 onwards includes only BPO and Call center services.

3) BPO export for FY 2022-23 will be provided after submission of APR.

MINING AND MINERAL INDUSTRIES

The annual target of revenue collection for the Department of Mines and Geology for the year 2022-23 is Rs. 6500.00 crores. The revenue target till November-2022 is Rs. 4160.00 crores and have achieved revenue collection of Rs. 3559.33 crores.

8.6 STATUS OF PUBLIC ENTERPRISES IN KARNATAKA

Karnataka State Small Industries Development Corporation (KSSIDC)

The amount of Royalty collected is Rs. 0.1914 crores till November 2022. Raw Materials worth Rs. 6.29 crore sold, 6,565 number of sheds and 10,650 industrial plots are established till November 2022.

As per the emphasis laid down by the Government for development of the MSME sector the Corporation is pursuing its efforts for establishment of new Industrial Estates.

- ❑ In this regard the Corporation as per the decision taken by the Board of Directors of KSSIDC in their 368th Meeting held on 14.11.2022 wherein the Board has decided to take allotment of 25 acres of land from Karnataka Industrial Areas Development Board each at Badanaguppe of Chamarajanagara and Kanagala of Belagavi district and has accordingly sent a proposal to KIADB for allotting the said lands for establishment of Industrial Estates.
- ❑ Further, the Corporation is also continuing its efforts for securing Government lands through the concerned Deputy Commissioners of the Districts for allotting atleast 10 acres for this purpose all the taluks of the state. The Deputy Commissioners of Tumkuru and Chikkaballapur Districts have been requested to allot suitable lands for this purpose.
- ❑ With regard to implementation of Para-154 of the Budget Speech of the Year 2020-21 of the Hon'ble Chief Minister Government of Karnataka regarding setting up of a coconut based Industrial Park in Tiptur of Tumkuru District the alternate land of 10.12 acres is proposed by the Sericulture Department to the one earlier proposed, the land has been jointly inspected by the Corporation and the Sericulture Department officials and as the land is found feasible for establishment of a coconut based Industrial Park a report is sent to the Government for allotment of the same.
- ❑ The Corporation as stated above is making continuous efforts for getting suitable Government lands and also lands from the Karnataka Industrial Areas Development Board for establishment of new Industrial Estates. After receiving positive response from the Government and KIADB in the matter of allotment of lands the Corporation keeping in mind the demand and feasibility of establishment of Industrial Estate will initiate necessary action.
- ❑ K.S.S.I.D.C. has been continuing to serve the M.S.M.E. units in the State by procuring and distributing various Industrial Raw materials required by them like Iron & Steel etc., through its raw material depots.

Karnataka State Industrial Area Development Board (KIADB)

In order to facilitate land acquisition activities for industrial development, State has introduced a land-sharing scheme. KIADB acquired lands, wherein about 10781 sq.ft. of developed land will be provided to the landowner in lieu of land compensation fixed for one acre of land acquired. About 3541 acres of land have been acquired throughout the State under land sharing scheme.

Karnataka State Electronics Development Corporation Limited (KEONICS)

Company has undertaken many projects of providing and programming of IT software and e-governance projects to various Government Departments of Government of Karnataka and other States. Company is also marketing computer hardware, software, e-tendering services, various electronic and IT equipment's, surveillance cameras, manpower and other related services to various Government Departments/Organizations of Government of Karnataka and other States.

Electronics City: Company has set up Electronics City on a sprawling 332 acres of land on Hosur Road, Bengaluru. This Electronics City is today a major hub for Information Technology activities.

IT Park, Hubballi : The Government of Karnataka has established IT Park in Hubballi with state-of-the art infrastructure. IT Park with 2.70 lakh sq.ft. built up area in a sprawling IT Complex at Hubballi with a total investment of Rs. 42.36 crores established. The Government has offered additional incentives including providing work space at concessional lease rentals to 50 entrepreneurs, providing job to 1526 employees. KEONICS has been entrusted with the responsibility of maintaining the IT Park Complex at Hubballi.

IT-SEZ Shivamogga : The Company has established an IT SEZ at Nidige-Machenahalli, Industrial Area, Shivamogga in an area of 25 acres. The Government of India has accorded KEONICS, the status of Co- Developer for this SEZ project. Out of 25 acres of land 6 acres has been allotted to SEZ entrepreneurs.

IT Park Shivamogga : The Company has established an IT Park at Nidige-Machenahalli, Industrial Area, Shivamogga in an area of 5 acres at a cost of Rs. 16.76 crores. The IT Park, Shivamogga consists of Ground + four floors with carpet and common area totaling to 71422.11 sq.ft. out of which 63783.61 sq.ft. has been allotted to 10 entrepreneurs, providing job to 698 employees.

IT Park, Kalburgi : The Company has established an IT Park at Kalburgi in an area of 1.72 acres at a cost of Rs. 11.24 crores. The IT Park, Kalburgi consists of Ground + four floors with carpet and common area totaling to 53000 sq.ft. out of which 33552.04 sq.ft. has been allotted to 10 entrepreneurs, providing job to 200 employees.

IT Park (K-Wings) Complex at HSR layout, Bengaluru: Company has built 75,000 Sq. ft. of IT Park (K-wings) complex at HSR layout, Bengaluru at a cost of Rs. 34 Crores. K-wing branches NASSCOM 10,000 startup, COE-IOT, Karnataka Digital Economy Mission, Semiconductor Fabless Accelerator LAB (SFAL), Reserve Bank Innovation Hub (RBIH), Internet and Mobile Association of India are functioning at IT park.

New Initiatives:

- ❑ It is proposed to establish IT park on PPP mode at 3.25 acre land in Mangalore. Proposed built-up area is 3.43 lakh sq.ft. with a project cost of Rs. 90.29 Crores. Proposal has been sent to Government for approval.
- ❑ It is proposed to establish IT park Annex - Phase-II on PPP mode in the existing 2.5 acres of land adjacent to the IT Park at Machenahalli Industrial Area, Shivamogga.

Proposed built-up area is 1.80 lakhs sq.ft. with a project cost of Rs. 27.14 Crores. Proposal has been sent to Government for approval.

- ❑ DPR & Feasibility report prepared on PPP model to set up Hardware / Software IT Park in 12 Acres of land at High-tech Defence and Aerospace Park (IT sector), near Kempegowda International Airport, Bengaluru.
- ❑ Financial Performance till November 2022, total turn over Rs. 294.15 crore achieved.

Department of Factories, Boilers, Industrial Safety and Health

Department of Factories, Boilers, Industrial Safety Health responsible for ensuring occupational safety, health and welfare of the of workers in the registered factories and at construction activities of above 25 crores investment through effective enforcement.

The State of Karnataka is having 17,857 registered factories with 17,53,327 workers and there are 6,085 registered Boilers. Taking into consideration the volume of storage of hazardous chemicals, there are 82 Major Accidents Hazardous Factories in 20 districts in the state.

There are about 1540 factories having hazardous manufacturing process and effective inspections are conducted to avoid possible accidents. Further the department is providing all the possible and required assistance to the management to ensure in providing occupational safety & health at work place. The details of the departmental activities in brief are given in **Table 8.9**. Registered Factories by Industries in 2022-23 are presented in **Appendix 8.2**.

Table 8.9 : The details of the departmental activities in 2022-23

Sl.No.	Particulars	2022-23
1	Registered Factories	890
2.	Total Registered Factories	17,857
3.	Total Workers	17,53,327
4.	Inspections of Factories	5401
5.	Prosecution (court Cases)	263
6.	No. of cases in which fines is imposed	163
7.	Compliance reports received	3163
8.	Registered Boilers	6085
9.	Total Registered Boilers	143
10.	Inspections of Boilers	4354

Source: Department of Factories, Boilers, Industrial Safety and Health

Karnataka State Financial Corporation (KSFC)

KSFC takes pride in being pioneer institution for providing financial assistance to the MSMEs of industrial and service segments in the State for past the 63 years. For the FY:2022-23 (April 2022 to November 2022) the Corporation has assisted 304 cases to an extent of Rs. 307.27 crore, disbursed Rs. 256.75 crore and recovered Rs. 489.93 crore.

Karnataka State Industrial Investment & Development Corporation (KSIIDC)

KSIIDC is the nodal agency of the State Government for the development of the industrial invest and development in the State of Karnataka. KSIIDC has initiated activities for the development of the following projects.

- ❑ Expansion of the Bengaluru International Airport.
- ❑ Development of Bengaluru Signature Business Park.
- ❑ Development of Airports, Airstrips and Helipads & Water Aerodromes.
- ❑ Comprehensive Integrated Infrastructure Development Project related to Fisheries, Ecology & Tourism etc., at Tadadi.

In addition to the above activities in the infrastructure sector, the corporation is also responsible for Settlement of remaining loan accounts under the proposed new OTS policy and Sale of primary assets taken over under section 29 and recovery of advances through legal recourse under SFC & other Acts. Department target & achievements are given in **Appendix 8.3**.

Public Enterprises

The state has 120 PSUs, of which, top 10 profit-making top PSUs in Karnataka are given in **Table 8.10**.

Table 8.10: Top 10 State-level Public Enterprises in Karnataka

Name of the Enterprises	Enterprise Status As on 31.03.2022			Enterprises Status as on 30.11.2022		
	Investment (Rs. In Lakh)	Employment (In Numbers)	Profit (Rs.In Lakh)	Investment (Rs. In Lakh)	Employment (In Numbers)	Profit (Rs. in Lakh)
Karnataka State Minerals Corporation Limited	600.00	515	Profit 78732.97	600.00	449	Profit 80957.70 (Upto Sept.22)
Karnataka Power Corporation Limited	476944.86	3965	(PBT) 31699.59	485580.11	3852	(PBT) 37220.97
Karnataka soap and detergent	3182.21	254	13820.02	3182.21	239	10266.17 (Tentative)
Mysore Sales International Limited	2255.82	95	8786.45	2255.82	81	5545.46
Karnataka State Beverage Corporation Limited	1200.00	296	6292.48	1200.00	263	7233.78

Name of the Enterprises	Enterprise Status As on 31.03.2022			Enterprises Status as on 30.11.2022		
	Investment (Rs. In Lakh)	Employment (In Numbers)	Profit (Rs.In Lakh)	Investment (Rs. In Lakh)	Employment (In Numbers)	Profit (Rs. in Lakh)
Karnataka State Industrial and Infrastructure Development Corporation Limited	69470.60	50	7001.41	69470.60	44	4028.80
Karnataka State Electronic Development Corporation Limited	3167.20	47	PBT Rs.2505.84 PAT Rs.1793.96	3167.20	36	Profit before tax Rs.1170 Profit after tax Rs.856
Karnataka Silk Industries Corporation Limited	3600.47	Permanent – 301 Outsource - 734 Total - 1035	3164.49	3600.47	Permanent – 270 Outsource - 720 Total - 990	2311.57
Karnataka State Police Housing & Infrastructure Development Corporation Limited	12.00	308	980.05	12.00	301	956.00 (Provisional)
Karnataka Forest Development Corporation Limited	931.40	1910	371.35	931.40	1874	1550.10 (unaudited)

Source: Finance Department

8.7 INDUSTRIAL POLICY INITIATIVES AND INDUSTRIAL INVESTMENT

The Government of Karnataka has announced the New Industrial Policy 2020-25, on 13.08.2020. The focus of the New Industrial Policy 2020-25 is to build on the strengths of Karnataka's industry and to enable it to fulfill its role as the engine of growth and to shoulder responsibility of adding more hi-tech value and employment. Industrial investments proposed through filing of industrial entrepreneurs' memorandum (IEM) and issuing of industrial licenses (IL) are presented in **Table 8.11**. There is decrease in the number of Industrial Entrepreneurs Memorandum filed and amount of proposed investment up to October 2022 increased when compared to December period in 2021.

Table 8.11: Details of Industrial Memorandum filed for Karnataka.

Particulars	January - December		
	2020	2021	2022 (up to Oct. 2022)
Industrial Entrepreneurs Memorandum filed (Nos.)	120	114	88
Percentage to All India Total	8.37	7.66	8.94
Proposed investment (Rs.crores)	1,62,492	61,726	67,652
Percentage to All India Total	39.19	8.0	17.16

Source :Department for Promotion of Industry and Internal Trade, GoI

Foreign Direct Investment (FDI) and Investment

The total FDI inflows to the Karnataka State in the 2022-23 was 23% (39361 US Dollar in Million) and stands second among 10 Indian States, in terms of quantum of FDI inflows.

610 Project proposals (592 new proposals + 18 proposals for additional Investment) with an investment of Rs. 44973.39 crores were approved in the SHLCC/SLSWCC. These projects are likely to generate employment to 133701 people. 393 Project proposals (356 new proposals + 37 proposals for additional Investment) with an investment of Rs. 237148.82 crores were approved in the SHLCC/SLSWCC.

Major Industrial Initiatives to drive the growth of Industry and Service Sectors

The major initiatives are Industrial Policy 2020-2025, Tourism Policy 2020-26, SEZ Act 2005. "Atithi"- Home Stay scheme, Eco-Tourism accommodation. SEZs-Under SEZ Act 2005 has granted formal approvals for 75 SEZs in the State. Karnataka has 36 operational SEZ's with an investment of Rs. 1,06,524 crores and generating employment for 400170 persons. There are 485 SEZ units working in these SEZ's.

8.8 KARNATAKA TOURISM

Department of Tourism as ventured upon following activities in order to develop basic Tourism Infrastructure to facilitate the tourist visiting the destination.

- ❑ Last mile connectivity to tourist destinations.
- ❑ Development of Yatrivas and Dormitory.
- ❑ Publicity material providing
- ❑ Toilet facilities.
- ❑ Measures for tourists' safety.
- ❑ Drinking water
- ❑ Providing Signages and Hoardings.

Karnataka Department of Tourism has taken up infrastructure development on top priority and has taken several concrete steps to enhance facilities at tourist destinations. As a result, tourist arrivals are provided in **Table 8.12**. The state stood at 3rd position in attracting domestic tourist (15.78 Cr) in the country during 2022 (upto November).

Table 8.12: Tourist's Arrival from 2017 to 2022

Year	Domestic Tourist	Foreign Tourist	Total
	Number of Tourists in Crore		
2017	18.00	0.05	18.05
2018	18.72	0.05	18.78
2019	22.79	0.06	22.85
2020	7.75	0.02	7.76
2021	8.13	0.01	8.14
2022 (As on November)	15.78	0.01	15.79
Total	91.18	0.20	91.37

Source: Department of Tourism

Tourism as an Economic Activity:

For integrated development of Tourism in the State Department of Tourism has introduced new tourism policy "2020-26" (revised) (5 Years). Karnataka Tourism Vision Group report envisaged that during the 2020-26 policy period Rs. 5000 Cr investments will be made which will generate around 10 lakhs employment directly/indirectly. More investment expected from the private sector or under PPP.

Tourism value chain provides employment for not only skilled man power but also for unskilled man power. As per estimation, approximately 8 to 11 percent of the world population gets direct or indirect livelihood through Tourism sector. Tourism attractions, monuments etc fall in the rural area therefore it is a good opportunity for the rural people to get employment. Karnataka is one of the India's most promising tourism destinations. Tourism Sector contributes one out of ten jobs in the state.

Income from Revenue Earnings

Tourism earns foreign exchange. The revenue generated by the Tourism is both by direct and indirect. Tourism and its allied sectors of travel and hospitality have emerged as key drivers of growth among the service sectors of India. As per WTTC's Economic Impact 2018 – India report, travel and tourism contributes to 9.2% of India's total GDP, positioning the country as 3rd among 185 countries in terms of the sector's overall contribution to the economy. Budget allocation and Expenditure till November 2022 is Rs. 159.84 crore and expenditure incurred is Rs. 101.58 crore.

Promotion and Publicity

Karnataka Tourism has initiated a new theme “Script Your Adventure”. Karnataka is primarily known for its heritage destinations and its wildlife/national Parks. Apart from that, it is also famous for its magical hill stations, spectacular waterfalls, pilgrimage centers and a 320km long coastline dotted with unspoilt beaches. In fact, Karnataka has it all, except snow clad mountains, making it an ideal place for a traveler with diverse interests.

Tourism Policy: Subsidy Incentives and Concessions

The sum of Rs. 40.00 crores has been released to hotel projects approved during the year 2009-14 and 2015-20 tourism policy.

❑ Tourism Infrastructure

Under this scheme 955 various Infrastructure works sanctioned in the previous years have been continued as ongoing works. The sum of Rs. 20.00 crores have been released to the implementing Agencies for completion of ongoing works and to start new works. These works are under various stages of implementation.

❑ Karnataka Tourism Vision Group Recommendations

Under the recommendations of KTVG 97 works for infrastructure development in various tourism destinations are continued and 282 new works are sanctioned for the current year 2022-23. An amount of Rs. 11700.00 lakhs sanctioned and Rs. 2800.00 lakhs released.

❑ Development of 20 Heritage Destinations

Orders have been issued for the overall development of 20 heritage destinations including conservation and preservation of monuments.

Karnataka Darshana Scheme

An amount of Rs.6.00 Crore released for Karnataka Darshana Tour Programme for 8573 SCP,TSP and 8573 OBC 8th Standard Government High School, Murarji Desai and Christ Residential high school children in 2022-23.

Development of Tourist infrastructure with the financial assistance of Ministry of Tourism, Government of India

- ❑ Under PRASAD scheme: A Concept Report is submitted to Ministry of Tourism for the overall development of Chamundeshwari Temple at Mysore. The project is approved for Rs. 47.47 Crore during the CSMC meeting on 1st September 2022. Awaiting issue of sanction letter to processes with issue of works tender for the same.
- ❑ Development of basic amenities under religious category in the Prasad Scheme.
 - ▶ Sri Madhwa Vana, Kunjarugiri, Udupi District.
 - ▶ Papnash Temple, Bidar District.
 - ▶ Sri Renuka Yellamma Temple, Saudatti, Belagavi District.

- ❑ Three destinations were approved by Ministry of Tourism. Karnataka Tourism Infrastructure Limited has been entrusted with preparation of concept plan for the three destinations.
- ❑ The CSMC approved the recommendation of the mission directorate for taking up Hampi and Mysuru destination for the development under Swadesh Darshan Scheme 2.0. Awaiting issue of model RFD and empanelled list of project development and management consultant (PDMC) from Ministry of Tourism.

Tourist Mitra Programme:

In order to provide safety and security tourists at tourist destinations 458 home guards have been trained in the second batch including 75 women candidates & totally 500 deputed to important tourist destinations to assist tourists as 'Tourist Mitra's'. (Tourist Police) (1st batch 42 + 2nd batch 458).

WAY FORWARD TO ACHIEVE \$ 1 TRILLION GDP

- ❑ 15,000 acres of available industrial land (across Vijayapura, Ballari, Dharwad, Shivamogga, Hassan, Ramanagara, Tumakuru, Chikkaballapur districts) would be optimally utilised besides private sub-sector specific 'plug and play' industrial clusters pushing MSME growth Beyond Bengaluru and generating employment of 45-50 Lakhs.
- ❑ Develop Industrial Corridors in Joint Venture (SPV viz. CBIC Tumakuru Industrial Township Limited) with National Industrial Corridor Development Corporation Limited, GoI at the following places.
- ❑ In Tumakuru under Chennai Bengaluru Industrial Corridor scheme about 8484 acres is being developed in 3 Phases with an estimated investment of about Rs. 10,000 crores., wherein, it is expected to attract investment of Rs. 50,000 crores, generating employment 2.35 lakh Nos and contribution to the exchequer to the tune of Rs. 5600 crores.
- ❑ In Dharwad under Bengaluru Mumbai Industrial Corridor scheme about 6000 acres is being developed in 2 Phases with an estimated investment of about Rs. 7000 crores., wherein, it is expected to attract investment of Rs. 35,000 crores, generating employment 1.81 lakh and contribution to the exchequer to the tune of Rs. 4,000 crores.
- ❑ In Yadgir under Hyderabad Karnataka Industrial Corridor scheme about 3200 acres is being developed in 2 Phases with an estimated investment of Rs. 3000 crores. wherein, it is expected to attract investment of Rs. 18,700 crores, generating employment 0.97 lakhs Nos. and contribution to the exchequer to the tune of Rs. 2,100 crores.
- ❑ The KSSIDC has established infrastructure committee for the establishment of industrial parks at the various parts of the State, small industrial parks at Bidar- 9, Kalburgi – 10, Yadgir-2, Raichur-4, Koppal -2 and Ballari -7.
- ❑ There is need for further push in labour intensive industries through skilling/up skilling/re skilling and providing incentives as well.

- ❑ New Education Policy will be leveraged to inculcate skilling from secondary education onwards to produce industry demand ready workforce besides incentivizing R&D incubation by setting up venture funds and NAIN (New Age Innovation Network) centres to encourage students, research scholars and alumni to boost the GDP.
- ❑ The vast tourism potential of Karnataka such as Coastal, Wildlife, Heritage, Adventure, Medical / Wellness, Religious / Spiritual, Eco Tourism, Agri-Tourism and Rural Tourism will be developed by providing relaxation to the 'land use change policy'.
- ❑ Operationalize container handling facility at Mangalore port to divert in bound and out bound cargo from Chennai, Tuticorin and Kochi ports.
- ❑ Newer ways to progress in governance and management of public systems through PPPs and use of big data is critical at this juncture for free flow of information, improved efficiency, faster delivery and building trust with citizens of the state.

APPENDIX 8.1

Two Digit Level (NIC-2008) Industrial Composition based on ASI 2019-20

Sl. No.	Industrial Group (NIC-2008)	Value of Output (Rs. lakh)	Percentage
1.	Agriculture and related activities (01)	600235	1.08
2.	Manufacture of Food Products (10)	8867810	15.92
3.	Manufacture of Beverages (11)	844323	1.52
4.	Manufacture of Tobacco Products (12)	639659	1.15
5.	Manufacture of Textiles (13)	365467	0.66
6.	Manufacture of Wearing Apparels (14)	2451420	4.40
7.	Manufacture of Leather and Related Products (15)	346038	0.62
8.	Manufacture of Wood & Wood Products (16)	140183	0.25
9.	Manufacture of paper & Paper Products (17)	1034161	1.86
10.	Manufacture of Printing & Reproduction of Recorded Media (18)	279220	0.50
11.	Manufacture of Coke & Refined Petroleum Products (19)	6925670	12.44
12.	Manufacture of Chemical & Chemical Products (20)	3079683	5.53
13.	Manufacture of Pharmaceutical, medicinal chemical and Botanical products (21)	2097780	3.77
14.	Manufacture of Rubber products (22)	1631006	2.93
15.	Manufacture of other non metallic mineral products (23)	1557198	2.80
16.	Manufacture of basic metals (24)	7821004	14.04
17.	Manufacture of Fabricated metal products (25)	1181225	2.12
18.	Manufacture of Computer, electronic & optical products (26)	1637488	2.94
19.	Manufacture of electrical equipment (27)	2615421	4.70
20.	Manufacture of machinery & equipment (28)	3218548	5.78
21.	Manufacture of motor vehicle, trailers & semi trailers (29)	3753376	6.74
22.	Manufacture of other transport equipment (30)	2078340	3.73
23.	Manufacture of furniture (31)	296630	0.53
24.	Manufacture of other manufacturing materials (32)	508207	0.91
25.	Manufacture of repair & installation of machinery (33)	45995	0.08
26.	Manufacture of waste collection treatment of disposal activities (38)	95562	0.17
27.	Others	1576009	2.83
	State Total	55687658	100.00

Source: Central Statistics Office (IS Wing), Kolkata

APPENDIX 8.2

Registered Factories by Process

NIC Group 2008	Description	2022-23
10	Manufacture of Food products	2310
11	Manufacture of beverages	139
12	Manufacture of tobacco products	60
13	Manufacture of Textiles	341
14	Manufacture of wearing apparel: Dressing and dyeing of fur.	1135
15	Tanning and dressing of leather	115
16	Manufacturing of wood and wood products	347
17	Manufacturing of paper and paper products	363
18	Publishing, printing, reproduction of recorded media	460
19	Manufacturing of coke, refined petroleum products	134
20	Manufacturing of chemical and chemical products	785
	Pharmaceuticals, medicinal, chemical & botanical products	268
22	Manufacturing of rubber and plastic products.	796
23	Manufacturing of other non-metallic mineral products.	898
24	Manufacturing of Basic metals.	582
25	Manufacturing of fabricated metal products except machinery and equipment.	2476
28	Manufacturing of office accounting and computing machinery, Manufacturing of radio, television and communication equipment and apparatus	508
27	Manufacturing of electrical machinery and apparatus.	643
26	Manufacturing of machinery and equipment N.E.C.	730
29	Manufacturing of motor vehicles, trailers and semi trailers	217
30	Manufacturing of other transport equipments.	64
31	Manufacturing of furniture: Manufacturing N.E.C. *	170
35	Other manufacturing , Manufacturing of medical precision and optical instruments, watches and clocks.	95
36	Electricity gas water supply	347
45	Repairs and maintenance of motor vehicles and motor cycles	1255
96	Other service activities	2619
	Total	17,857

Source: Department of Factories, Boilers, Industrial Safety & Health

APPENDIX 8.3

Target and Achievements of Karnataka State Industrial & Infrastructure Development Corporation Limited

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	TARGET	ACHVMT	TARGET	ACHVMT	TARGET	ACHVMT
SOURCES:						
Opening Balance of Cash/Bank	31919.09	31919.09	42684.59	42849.26	46008.69	46008.69
Structured Obligation to GOK (HUDCO)	1000.00	1000.00	0.00	0.00	0.00	0.00
Government of Karnataka / BIAP Cell/ Equity Support	25.00	25.00	25.00	25.00	0.00	0.00
Projects/Others	8700.00	8648.94	75.00	13027.90	4800.00	43408.77
KITVEN Fund	0.00	18.82	0.00	0.00	0.00	177.29
Recovery from Staff Advance	18.00	19.26	19.50	19.53	19.40	22.47
Recovery from Operations	1743.67	1348.85	1600.00	1688.08	1600.00	948.08
Revenue Receipts	7456.95	7994.06	8909.25	7484.32	8836.73	10809.55
Income tax refund/ Lease Rent Payable/ Others	1456.25	1713.73	1499.94	1520.24	1644.94	1745.55
Total	52318.96	52687.75	54813.28	66614.41	62909.76	103120.40
APPLICATIONS:						
KITVEN Fund	450.00	357.94	350.00	97.73	458.78	0.00
Repayments to HUDCO/CRPS Redemption	0.00	0.00	0.00	0.00	0.00	0.00

Particulars	FY 2019-20		FY 2020-21		FY 2021-22	
	TARGET	ACHVMT	TARGET	ACHVMT	TARGET	ACHVMT
Staff Advances	65.00	14.26	36.00	13.29	60.00	17.10
Discharge of other liabilities/ BIAL Lease Rent	1456.25	1621.07	1649.94	2942.16	1774.94	4009.74
Capital Expenditure	197.00	67.50	242.00	8.74	746.00	139.57
Project Expenditure/ Deployment	7650.00	5347.30	20.21	14049.64	4968.00	35298.60
Current Assets	250.00	0.00	0.00	1261.04	800.00	11.55
Income Tax/ Sales Tax/FBT/ Others	2783.14	1080.01	801.97	1092.49	900.00	1507.22
Revenue Payments	1743.57	1515.08	1565.16	1240.63	1842.35	2217.93
Closing Balance of Cash/Bank	37724.00	42684.59	50148.00	46008.69	51359.69	59918.69
Total	52318.96	52687.75	54813.28	66714.41	62909.76	103120.40

Source: Karnataka State Industrial & Infrastructure Development Corporation Limited

9.1 INTRODUCTION

As per SDG India Index 2020 with respect to SDG8 on Decent Work and Economic Growth, Karnataka ranked 6th among States with a score of 66 and the best performing states neighbouring State is Telangana (73). Labour- Force Participation Rate (LFPR) (15-59 years) is 56.6% and best performing State is AP with a score of 63.5%. Ratio of female to male Labour Force Participation Rate (15-59 years) is 0.34 (score 28) and better performing states are Gujarat (0.81) and AP (0.71). Unemployment rate (15-59 years) is 3.9%.

Efforts of the government schemes and policies has led to increase in Labour Force Participation Rate (LFPR) (age 15 & above) from 51.2% in 2018-19 to 56.9% in 2020-21 and decrease in unemployment rate from 3.9% in 2018-19 to 2.7% in 2020-21. The Skill and Labour Departments are instrumental in skill training for job seekers and resolving industrial disputes arising between employers and employees through tripartite conciliation mechanism, thereby fostering harmonious relationship between them and ensure optimum productivity. For the benefit of unorganised sector which constitute around 83%, the State Government has framed Unorganized Workers Social Security (Karnataka) Rules, 2009 and constituted the Karnataka State Unorganized Workers' Social Security Board. Skilling/upskilling efforts to unorganised work force will significantly contribute to the vision of USD1 Trillion GDP by way of increasing employability and income prospect.

9.2 SKILL DEVELOPMENT, ENTREPRENEURSHIP AND LIVELIHOOD

Enhancing Skill Empowering Youth

The Government of Karnataka has set up the Department of Skill Development, Entrepreneurship and Livelihood (SDEL) in 2016 to enable the state's youth to acquire necessary skills for decent employment, and to promote sustainable livelihood. Simultaneously, industry's need for skilled manpower will be satisfactorily met resulting in enhanced productivity and growth in all the three sectors of economy. In accordance with the National Skill Development Policy, the State Government has finalized a Skill Development Policy with an objective of providing suitable skill training for job seekers and to provide them placement. The demographic advantage provides a window of opportunity for the next 25 years. It gives the State a developmental edge with a potential to leverage as a global leader, provided this large youth population is channelized, skilled and equipped adequately. During the year 2022-23 the expenditure (Rs. 1009.89 Cr) to release (Rs. 1038.29 Cr) ratio is 97.26% upto January 2023.

Koushalya Mission Structure

Skill Development, Entrepreneurship and Livelihood activities through Mission Mode. State Koushalya Mission chaired by honourable Chief Minister, District Koushalya Mission chaired by Deputy Commissioner and Taluka Koushalya Mission chaired by Assistant Commissioner

Registration of job seekers under kaushalkar.com

The candidates registered under www.kaushalkar.com for various job roles of the sectors having potential job opportunities will be imparted skill training as per their aspirations.

The information of district and categorywise aspirants registered is given in the **Appendix 9.1.**

Organizations coming under the department

The organisations undertaking Skill Development, Entrepreneurship and Livelihood activities are brought under this department are given below.

- 1 Entrepreneurship Development and Incubation Centres
- 2 Industrial Training Institutes and Multi Skill Development Centres
- 3 Karnataka Skill Development Authority
- 4 Commissionerate of Industrial Training and Employment
- 5 Rural Development and Self Employment Training Institute
- 6 Centre for Entrepreneurship Development of Karnataka
- 7 Government Tool Room & Training Centre.
- 8 Karnataka German Multi Skill Development Corporation (KGTTI)
- 9 Bharat Ratna Mokshagundam Visvesvaraya National Training Facility for skill for All Society.
- 10 National Livelihood Mission (Rural and Urban)
- 11 Karnataka Skill Development Corporation

Chief Minister's Kaushalya Karnataka Yojane

Market driven skilling, re-skilling and up-skilling of youth in the age group of 18-35 years, recognizing their prior learning and provide them higher skills and make them capable of getting decent employment. Impart quality training by building capacity of the training institutions and trainers and providing effective incentives. Providing training by enforcing uniform curriculum, standards and certification etc., by aligning with National Skill Qualification Framework and consolidating training programmes of all the departments. To ensure every trainee has a gainful wage or self employment with decent work. Out of an annual target of 36540,25757 youths are trained and 21541 are employed under Chief Minister's Kaushalya Karnataka Yojane-2022-23 up to November 2022.

"SANJEEVINI" – Karnataka State Rural Livelihood Promotion Society (KSRLPS)

The urban and rural livelihoods of Karnataka has been amalgamated as per the pronouncement made in 2020 by the State Government. Till date Sanjeevini – KSRLPS has covered all the 226 blocks in all the 31 districts in the state of Karnataka. The Hon'ble Chief Minister of Karnataka has declared year 2022-23 budget speech as "Year of Livelihood". The details of Progress of Sanjeevini-KSRLPS against the action plan given in **Table 9.1** (Upto November 2022)

Table 9.1 : Details of Progress of Sanjeevini-KSRLPS during the year 2022-23 (Rs.in Crore)

Component wise details	Budget	O.B	Releases	Available Fund	Expenditure	% to Release	% to Budget
National Rural Livelihood Mission	814.68	164.39	108.66	281.47	226.36	208.32	27.78
National Rural Economic Transformation Project (NRETP)	62.00	20.88	4.52	27.51	27.45	607.30	44.27
Rural Self Employment Training Institute (RSETI)	19.31	2.79	20.17	23.00	0.00	0	0
DeenDayal Upadhyaya Grameena KaushalyaYojane (DDU-GKY)	173.14	69.15	1.61	71.73	10.35	642.86	5.98
Start-up Village Entrepreneurship Programme (SVEP)	59.70	3.16	0.00	3.20	2.70	0	4.52
Stree Samarth yojana	100.00	0.00	100.00	100.21	0.12	0.12	0.12

Lok Operating System (LokOS): Action Plan / Progress

LokOS has been developed to record and register details of neighbourhood groups, Area Development Societies (ADS) and Community Development Societies (CDS) in rural areas. It is being readied in the state in accordance with the National Rural Livelihood Mission (NRLM). Profile entry will be practiced in Training server until December 2022 & from January 2023 entry will be done in Live server and is expected to complete the Profile entry by March 2023

Social Development and Gender

To prevent domestic violence and child sexual abuse, 4.25 lakh self-help group members have been trained. The State has created a special training manual on non-violence. Further, awareness is being created on prevention of domestic violence against women through rally, street drama, special Gram sabha meetings, rangoli competition, workshop activities

At present, 16547 Gram Panchayath level Federation (GPLF)units are working at the Gram Panchayath level and 1954 women have been trained in 4-wheeler driving and 814 women are working.

Common Work Shed

As announced by the Honorable Chief Minister of Karnataka in the Budget Speech, common work sheds have been constructed under MGNREGA to facilitate the members of Stree Shakthi Federations to undertake their activities. 750 work sheds will be constructed additionally in the year 2022-23 with an estimated cost of Rs. 17.50 lakhs per unit. So far, 49 works are completed and 268 works are under progress

Financial Inclusion

Door-to-door banking services are being provided to meet the financial needs of self help groups in rural areas through Business Correspondence (BC). One BCSakhi is working per gram panchayat, during 2022-23, 3320 BC sakhis are active at gram panchayat level.

Financial assistance are provided under Pradhan Manthri Jeevan Jyothi Bima Yojane (PMJJBY), to such families in case of health problems, unexpected accidents, unexpected death etc. of family members of Self Help Group, So far, 16.2 lakhs (85%) members covered and under Pradhan Manthri Suraksha Bima Yojane 18.9 lakh (78%) SHG members and families are registered.

Community Investment Fund (CIF)

Community Investment Fund (CIF) is provided as a resource in perpetuity to capitalize the institutions of the poor. SHGs will prepare micro investment/micro credit plan to pursue income generating activities by poorest of the poor women in the SHGs. Farm Livelihood promotion is focused on developing the livelihood basket of rural poor consisting of multiple livelihood sources, Diversifying livelihood portfolio of rural poor with minimum 2-3 farm livelihood activities from among the agriculture, horticulture, livestock, fishery and NTFP. Details of Progress of Farm Livelihood is given in **Table 9.2**.

Table 9.2 : Progress of Farm Livelihood

Indicators	Annual Targets	Achievement	%
No. of MahilaKisans covered under AEP interventions	2,50,000	2,42,351	96.94
No. of MahilaKisan supported under livestock interventions	1,50,000	1,35,650	90.43
No. of Krishi Sakhis (Agriculture CRP) positioned	5962	5,261	88.24
No. of PashuSakhis (Livestock CRP) positioned	5962	5,154	86.45
No. of Organic Village Clusters (OVC) established	30	30	100.00
No. of Local Group registered on PGS India portal	300	280	93.33
No. of Integrated Farming Clusters (IFC) developed in NRETP	14	14	100.00
Establishment of Agri Nutri Gardens (ANG)	6,02,162	6,04,961	100.46
Establishment of plant nurseries	425	468	110.12

- ❑ **Sanjeevini** - KSRLPS is the agency implementing Pradhan Mantri Formalisation of Micro food processing Enterprises (PMFME) scheme in Karnataka state. It aims to enhance the competitiveness of existing individual micro-enterprises in the unorganized segment of the food processing industry and promote formalization of the sector. Seed Capital of Rs. 15.59 cr. was disbursed to 3921 SHG members.

- ❑ In the year 2022-23, 100 Van Dhan Vikas Kendra (VDVKCs) have been sanctioned from Ministry of Tribal Affairs (MoTA) and TRIFED to Karnataka with a total budget of Rs. 15.00 crores. As advance payment Sanjeevini KSRLPS has received 50% of the funds that is Rs. 7.5 crores and further transferred to districts.
- ❑ Under Farm Livelihood, 2168 Krishi Sakis, 270 PashuSakis have been trained and 437 Krishi Udyog Sakis have been trained and deployed in the field to achieve the targets.

Non- Farm/ Enterprises Promotion

- ❑ Sanjeevini KSRLPS has conducted a National SARAS Mela and 306 SHGs participated from Karnataka and generated income of Rs. 3 crores.
- ❑ In ChitrakalakalaParishath, trade fair 120 SHGs participated and have collected a revenue of Rs. 35.00 lakhs.
- ❑ Every month Taluka monthly markets have been conducted in all the taluks to generate an income of Rs. 5.00 crores in the 1st and 2nd quarter and have benefitted more than 3000 micro enterprise.
- ❑ To promote online marketing of the products manufactured by the SHG members of Sanjeevini – KSRLPS, MoU has been signed by Amazon, Flipkart, Meesho and Kulture Street and 200 products have been onboarded and put up for online sales.

Stree Samarthya Yojana (SSY)

The Honourable Chief Minister of Karnataka has announced in his budget speech 2022-23 about Stree Samarthya Yojane, which will supports SHGs to produce standard products by a financial assistance of Rs. 1.00 lakh to 50,000 Self Help Groups as Community Investment Fund. So far, 53,102 SHGs have registered under SSY.

National Rural Economic Transformation Project (NRETP)

13 One-Stop facility (OSF) centres has been established in Gadag, Tumkur and Uttara Kannada districts. The OSF will plan to support 2017 SHG entrepreneurs in the next three years.

Start-up Village Entrepreneurship Project (SVEP)

Start-up Village Entrepreneurship Project (SVEP) aims to support rural poor come out of poverty by helping them set up enterprises and provide support till the enterprise stabilizes. The total project cost for implementation of project in a taluk for duration of four years is Rs. 5.97 crore per block, supporting atleast 2400 enterprises owned and managed by SHG women.

Rural Self Employment Training Institutes (RSETIs)

RSETI's is the nodal agency for providing training to rural youths on self employment on different trades. In Karnataka State, 33 RUDSETI / RSETIs have been established in 29 districts with well established infrastructure and human resource through which training on 62 different trades are imparted to the selected candidates.

DeenDayal Upadaya Grameena Koushalya Yojane (DDU GK):

DDUGKY a skill programme of MORD earlier known as Aajeevika Skills Yojane renamed as a Deen Dayal Upadaya Grameena Koushalya Yojane envisages providing jobs after trained by training partners. State has developed action plan 54,000 Candidates training in Skill Development, Entrepreneurship and Livelihood have been approved initially by the Central Empowered Committee of MORD with an approved cost of Rs. 692.78 crores including support cost for three years. The physical progress for this amount is given in **Table 9.3**

Table 9.3 : Progress under DDUGKY approved by MoRD from 2019 to 2023

PIAs	Target	Trained and placed as on December 2022		
		Training Commenced	Training completed	Placement Achieved
2019 to 2022	54,000	50,888	44,564	25,095
FY 2022-23	14000	1854	2380	544

Deendayal Anthyodaya Yojana - National Urban Livelihoods

Swarna Jayanthi Shahari Rozgar Yojana (SJSRY) This scheme is implemented with the support of Central and State Government and the sharing pattern of 60:40 per cent. The State Urban Livelihoods Mission is aimed to reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self-employment & skilled wage employment opportunities.

As per the guidelines issued by Ministry of Housing and Urban Poverty Alleviation GoI, DAY-NULM programme is being implemented in 277 cities in the state i.e 11 City Corporations, 59 CMCs, 115 TMCs and 92 TPs.

The progress achieved under DAY-NULM upto November 2022 is given in **Appendix 9.2**

PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)

The PMSVA Nidhi scheme is implemented in all the Urban Local Bodies in this state of Karnataka. Till the end of November 2022-23, out of 2,98,702 eligible applications, loan has been sanctioned for 2,34,316 beneficiaries amounting Rs.294.86 crores and Rs. 243.51 crores has been disbursed to 1,99,049 street vendors.

Centre for Entrepreneurship Development of Karnataka (CEDOK)

Entrepreneurship Awareness Camps/Programmes is to create awareness on entrepreneurship among the students, SHG members, unemployed youths, women, etc. The durations of Awareness Programmes are from one day to three days based on the requirement. Entrepreneurship Development Programmes Main objectives of these programmes are to create awareness on different self-employment schemes of various departments and to prepare project plans and formulation.

Government Tool Room and Training Centre (GTTC)

Government Tool Room and Training Centre (GTTC) Bangalore, was established in the year 1972 with Danish assistance on a modest scale has today grown into major Tool Room in the country. GTTC offers training programmes at various levels with a view to address the ever growing requirement of qualitative technical manpower for diverse manufacturing environments.

Establishment of Centres of Excellence

- ❑ Centre of Excellence has been established in association with Siemens Industry Software and Design Tech Systems Ltd., at Bengaluru, Mysuru, Dandeli and Kalaburgi GTTC centres.
- ❑ Centre of Excellence has been established in association with Dassault Systemes at Humnabad, Lingasugur, Hospet and Yadgir GTTC centres located at Kalyana Karnataka Region.
- ❑ Centre of Excellence has been established in association with Parametric Technology Corporation (PTC) at Belagavi, Hubballi, Mangalore, Shimoga, Hassan, Tumkur and Harihar GTTC centres.

GTTC has 28 training centres across the state of Karnataka. This facilitates the candidates (both urban and rural) to get the industrial skill training. GTTC is providing skill training programmes to the youth with industry ready skills to cater the manpower requirements of industries. GTTC trained candidates are well accepted by the industry.

Karnataka German Multi Skill Development Centre (KGMSDC)

KGMSDC has established Two Multi Skill Development Centres (MSDCS) in Bangalore & Gulbarga of International Standards for training in Advanced Technology areas with the Technical Collaboration of the German Technical Corporation (GIZ-IS), Germany. The objective of these centres is to offer specialised skills training programme on par with international standards and in alignment with the Industry requirement. MSDC Bangalore and Gulbarga have already achieved 100% recovery ratio in respect of recurring expenses. For the first time in the country GoK with GoI assistance has established Multi Skill Development Centres (MSDCS) at Bangalore and Gulbarga with the Technical Collaboration with GIZ-InS, Germany, three more Multi Skill Development Centres (MSDCs) has already been set up at Belagavi, Mangaluru and Hubballi and training has commenced from February 2015.

Karnataka Skill Development Corporation (KSDC) Limited

On the recommendations of the National Skill Mission/ State Skill Mission in accordance with the Skill Development Policy, According to Government Order the Skill Development, Entrepreneurship and Livelihood Department was reconstituted. Accordingly, the Institution was renamed as Karnataka Skill Development Corporation.

Chief Minister Kaushalya Karnataka Yojane (CMKKY)

Under the CMKKY Scheme, 112812 candidates have been trained free of cost in 125 different job roles through more than 630 government and private institutions.

Short Term Skill Training: Steps have been taken to train 7500 candidates in short-term skill training. GTTC and KGTTI Institutes have been instructed to train 5000 candidates, and the grant for it has been released.

Pradhan Mantri Kaushal Vikas Yojana: Under the PMKVY Scheme, 33956 candidates have been trained free of cost in 63 Job roles across 234 Training Providers across the state. This training has been provided by private training providers with 2020-21 seeing 9181 candidates and 2021-22 seeing 11408 candidates trained.

Recognition of Prior Learning (RPL): Under this program a target of certifying 6000 candidates was kept with 5572 candidates being trained, tested and certified thus far.

Training of Trainers: Under the SANKALP Scheme, 500 ITI / Diploma / Degree Instructors are to be trained in English Communication and 21st Century Skills. 100 Trainers from Vocational Training Institutes are to be trained in Advanced Skill Training Programs.

International Migration Centre - Karnataka (IMC-K)

Corporation has been identified as a Recruitment Agency and registered with the Ministry of External Affairs, Government of India. Karnataka Skill Development Corporation identifies candidates for suitable employment opportunities abroad and thus so far has provided overseas employment opportunities to 513 candidates. Under the program, IMCK provides Pre Departure Orientation Training (PDOT) to candidates and thus so far has provided training to 576 candidates. This training includes awareness and information about the host nation, legal and rules, grievance redressal mechanism and embassy assistance.

Additionally, official documentation and certification from the Ministry of External Affairs is also provided. Migrant Resource Centres and Migrant Information Centres have been set up in 8 Districts and Pre Departure Orientation Training Centres to aid the candidates are being planned. Karnataka Skill Development Corporation has signed an MoU with the National Health Services (NHS), United Kingdom, to provide training in International English Language Testing System (IELTS) for Nurses and 60 candidates are being trained under this program. In the current year, the Corporation has captured the demand for various sectors from potential employers from the Middle East. The recruitment procedure is currently underway.

Skills and Job Fairs

Job fairs for professionals through skill training are organized on a large scale at the state level and short job fairs are organized at the district level, about 2,17,602 candidates have been employed by these fairs till 2022-23.

Apprenticeship Training

Nearly 145784 apprentices are being trained in 337 industries in the state under Apprenticeship Act, 1961. The central government has amended the Education Act and introduced industry-friendly regulations, increasing the manpower strength to over 40. Each enterprise is allowed to train 2.5% to 15% of the apprentices based on the total number of employees by registering them at www.apprenticeship.gov.in portal.

9.3 LABOUR WELFARE DEPARTMENT AND EMPLOYMENT

Labour Welfare Department for the benefit of unorganised sector which constitute around 83%, the State Government has framed Unorganized Workers Social Security (Karnataka) Rules, 2009 and constituted the Karnataka State Unorganized Workers' Social Security Board. Skilling/upskilling efforts to unorganised work force will significantly contribute to the vision of USD1 Trillion GDP by way of increasing employability and income prospect.

Organised and Unorganized Worker

Karnataka Labour Welfare Board constituted in 1969, in accordance with Karnataka Labour Welfare Fund Act, 1965 & Rules 1963 to implement Various Welfare and Social Security schemes for the Organized sector workers, working in registered factories, plantations, motor transport establishments, shops & commercial establishments, employing more than 50 workers

Ministry of labour and employment, National Data Base of Unorganised Worker is given a target of 1,89,18,003 unorganised workers target for Karnataka to upload in e-SHRAM portal and District wise details is given in **Appendix 9.3**.

The Union Government has identified 379 categories of unorganised workers, inclusive of Building and Other Construction workers, Agriculture Laborers, Fishermen, Asha Workers, Domestic Workers, Drivers, Tailors, Street Vendors and other categories of unorganised workers not mentioned in the list can also register under "Other Category

The Karnataka State Unorganized Workers Social Security Board (KSUWSSB)

Registration of the Unorganised workers under E-shram Portal

The Central government has given a target of registration of 1.89 crore unorganized workers for Karnataka State in the e-shram portal developed by it. So far About 7374012 workers have been registered as on date 23.01.2023 under this portal across the Karnataka and steps will be taken to reach the target by undertaking IEC activities to create awareness among the beneficiaries. The major registration occupational sectors details are given in **Table 9.4**.

Table 9.4 : Major Sectorwise registration under e-shram portal

Occupational Sector	No. of Registrations
Agriculture	4016096
Construction	872563
Apparels	679644
Automobiles and Transportation	337751
Miscellaneous	316355
Domestic and household workers	193022

Source: GoI, e-shram portal.

Skilling Guidance

KSUWSSB (RA-K) through its Migration Facilitation Architecture (MFA) continuously strives to provide counselling and advice to the candidates on various skilling opportunities, including those under the Chief Minister's Kaushalya Karnataka Yojane (CMKKY), Pradhan Mantri Kaushal Vikas Yojana (PMKVY), Deen Dayal Upadhaya Grameen Kaushalya Yojana (DDU-GKY) so that candidates can be considered for overseas employment opportunities.

Aatmanirbhar Bharat Rojgar Yojana (ABRY)

ABRY was announced as a part of Aatmanirbhar Bharat 3.0 package to boost the economy, increase the employment generation and to incentivize creation of new employment along with social security benefits. This scheme being implemented through the Employees Provident Fund Organization (EPFO), reduces the financial burden of the employers of various sectors/industries and encourages them to hire more workers. Under ABRY benefits are provided to every establishment registered with EPFO and their new employees (earning wage less than Rs. 15,000/- per month). If this scheme is extended to Unorganised sector workers providing occupation based micro loan facility, domestic industries/domestic production will increase and as a result, triple the unorganised sector share to GDP.

Bridging the digital divide and strengthening non-digital infrastructure: Unorganised workers only 4.4% rural and 42% urban households have access to the internet which is further skewed due to gender and regional disparity. In this digitally unequal landscape, the hope for an organic digital uptake of e-SHRAM seems a distant dream. However, the use of existing non-digital welfare infrastructure boards, PDS, MGNREGA, ICDS etc.

Initiatives of labour department

The labour department includes Employees State Insurance Scheme and Factories, Boilers, Industrial Safety and Health. The labour department has prepared labour codes on the occupational Safety, Health and Working condition code 2020 section 133 and 135 (Karnataka) Draft Rules-2021 and published on 4-4-2022 as per central Act no 37 of 2020 section 133 and 135. Financial Progress for the year 2022-23 (as on Jan 2023) is 72.77% to its release. (Expenditure:Rs.368.54 Cr to release: Rs 506.42 Cr ratio is 72.77%) scheme-wise details is given in **Appendix 9.4.**

Major Progress of Labour Department

- ❑ In Karnataka full medical care has been extended to about 45.76 lakhs insured persons and about 180 lakhs of their family members through a network 10 ESI Hospitals (ESIC Model Hospital, Rajajinagar & Peenya & Gulbarga). 116 full time ESI Dispensaries and 02 Diagnostic Centres.
- ❑ Karnataka Building and Other Construction Workers Welfare Board has registered 35.40 lakhs Building and Other Construction Workers as beneficiaries. 5,11,687 beneficiaries have registered newly during the year 2022-23.
- ❑ Building and other construction Workers Welfare Board has provided financial assistance to eligible registered beneficiaries amounting to Rs. 4982.44 crores under 25 various welfare and social security schemes so far. At present year 26,25,335 beneficiaries have availed benefits under various schemes amounting to Rs.1718.62

crore. 9589.14 crore cess amount has been collected so far, in the year 2022-23 an amount of Rs. 760.00 crore cess amount has been collected.

- ❑ Providing bus passes at concessional rate to women workers working in Garment factories in Bangalore under Vanitha Sangathi scheme.
- ❑ The “Iconic Week” was held from 07-03-2022 to 13-03-2022 as part of the 75th Independence Day (“Azadi Ka Amrit Mahotsav”) by providing various awareness activities like auto announcement, vehicle branding, automated calls, radio advertisement etc. were undertaken across the state to create awareness among construction workers regarding social security and welfare schemes and registration and renewal of registration of workers.
- ❑ In order to resolve the issues of the workers, the Board undertook a unique campaign known as “Karmika Adalat 1.0” for disposal of pending claim applications of the construction workers from 16-08-2021 to 16-09-2021. A record 2,83,294 pending applications were cleared, in Success of Karmika Adalat 1.0”, Karmika Adalat 2.0” campaign was carried out from 15-07-2022 to 15-08-2022 and 2,04,883 applications are cleared.
- ❑ Karnataka state Unorganised Workers Social Security Board given accident benefit of Rs 5,2548,498 in 111 cases and an amount of Rs 23,70,000 is given as educational assistance to 237 students, during the year from April to December 2022.
- ❑ Karnataka State Workers and Social Security(Ashadeepa scheme) Society reimbursed to 355 SC/ST employers with an amount of Rs. 73,24,881 as on November during the year.
- ❑ Under e-SHRAM portal (www.eshram.gov.in), for creating a National Data Base of Unorganised Workers (NDUW), more than 379 categories of unorganised workers, aged between 16-59 years and who are not covered under ESI, EPFO and income tax payers can get them registered in e-Shram Portal themselves directly or by visiting any Common Service Center (CSC) freely and get registration card immediately. During the period 12,84,166 workers are registered. So far 73,74,012 workers have been registered across the state. Such registered workers are eligible to get the benefit of Pradhana Mantri Suraksha Bima Yojana (PMSBY) of Gol for one year (It is an Accidental Insurance Scheme. Death due to accident is Rs.2.00 lakh and upto Rs.1.00 lakh in case of Permanent disability or Hospitalization).
- ❑ Strikes and Lockouts – The number of strikes and lockouts indicate the level of industrial peace in a State. Karnataka is by and large, a peaceful state as far as industrial environment is concerned. No strikes, lockouts, layoffs reported during the year.
- ❑ Absenteeism - In the year 2022-23 at the end of November 2022 month, the proportion of absenteeism of industrial workers was 8.89% and during 2021-22 it is 12.20%. Absenteeism in plantation labour was 35.31% in the previous year and during 2022-23 it is 35.99%.

Karnataka Labour Welfare Board is implementing 6 major welfare schemes and social security schemes for the organised sector workers. The board has made a financial progress of Rs. 3.62 crores for 6393 beneficiaries from April 2022 to December 2022. Total number of Firms comes under Board is 1500 with a matching contribution from the

Government is Rs.3.75 Crores, Employer's contribution is Rs.0.42 Crores and Employees contribution is Rs.0.21 Crores.

Employment and Unemployment Survey-2020-21

Employment and Unemployment surveys (EUS) of National Sample Survey (NSS) are the Primary source of Labour market data at National and State level in India. This is the Annual report based on the data collected in Periodic Labour Force Survey (PLFS) during July-2020 to June-2021. As this is annual Survey there is continuity in the data collection.

(a) Labour Force Participation Rate (LFPR): In Karnataka as per GoI PLFS-2020-21 LFPR for persons aged 15 years and above according to UPSS status approach is 56.9%, whereas all India average is 54.9% and comparative details is given in **table 9.5**.

Table 9.5 : Labour Force Participation Rate for Persons Aged 15 Years and above According to UPSS Status Approach (in Percentage)

State	Rural			Urban			Urban & Rural		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
Andhra Pradesh	78.0	51.7	64.8	76.7	31.7	53.4	77.6	45.1	61.1
Gujarat	78.7	43.1	61.2	78.0	19.1	49.4	78.4	33.1	56.3
Karnataka	80.4	41.9	60.7	75.2	26.0	50.5	78.4	35.9	56.9
Kerala	75.7	35.4	53.9	68.5	30.6	48.4	72.2	33.2	51.3
Maharashtra	76.8	43.5	60.5	73.4	24.9	49.3	75.4	36.0	56.0
Tamil Nadu	79.3	52.4	65.2	77.5	31.6	54.0	78.5	43.0	60.0
Telangana	76.7	56.9	66.8	75.0	28.0	51.9	76.0	45.4	60.8
All India	78.1	36.5	57.4	74.6	23.2	49.1	77.0	32.5	54.9

Source: Annual Report, PLFS 2020-21 Table-16, Page no.A-65, NSSO, MOSPI, GOI.

(b) Worker Population Ratio (WPR) under UPSS approach for Karnataka is 55.3% which is more than all India average of 52.6% and comparative details is given in **table 9.6**.

Table 9.6 : Worker Population Ratio Rate for Persons Aged 15 Years and above According to Usual Principal & Subsidiary Status Approach (in percentage)

State	Rural			Urban			Urban & Rural		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
Andhra Pradesh	74.3	51.0	62.7	72.5	29.4	50.2	73.8	43.9	58.6
Gujarat	77.9	43.0	60.7	74.9	17.7	47.2	76.6	32.4	55.0
Karnataka	78.6	41.0	59.4	72.7	24.7	48.6	76.4	34.9	55.3
Kerala	70.8	30.7	49.1	62.5	25.3	42.8	66.8	28.2	46.1
Maharashtra	74.5	43.1	59.1	68.9	23.0	46.2	72.3	35.0	53.9

State	Rural			Urban			Urban & Rural		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
Tamil Nadu	75.0	50.4	62.1	73.6	29.2	50.9	74.3	40.8	56.9
Telangana	73.4	55.7	64.6	70.1	24.9	47.8	72.1	43.4	57.8
All India	75.1	35.8	55.5	70.0	21.2	45.8	73.5	31.4	52.6

Source: Annual Report, PLFS 2020-21 Table-17, Page no.A-70, NSSO, MOSPI, GOI.

(c) Unemployment Rate (UR)

Lowest unemployment rate is recorded in Karnataka(Urban Area) among major states in the country. Karnataka is 2.7% for all persons i.e., urban and rural put together which lesser as compared to All India level rate of 4.2% and comparative details is given in **Table 9.7**.

Table 9.7 : Unemployment Rate among Persons Aged 15 Years and above According to Usual Principal & Subsidiary Status Approach (%)

State	Rural			Urban			Urban & Rural		
	Male	Female	Person	Male	Female	Person	Male	Female	Person
Andhra Pradesh	4.7	1.4	3.3	5.4	7.2	6.0	4.9	2.7	4.1
Gujarat	1.0	0.3	0.8	4.0	7.1	4.6	2.3	2.0	2.2
Karnataka	2.2	2.0	2.1	3.4	5.0	3.8	2.6	2.8	2.7
Kerala	6.4	13.4	8.9	8.7	17.4	11.6	7.5	15.1	10.1
Maharashtra	2.9	0.9	2.2	6.1	7.4	6.5	4.1	2.7	3.7
Tamil Nadu	5.4	3.8	4.8	5.1	7.5	5.8	5.3	5.0	5.2
Telangana	4.3	2.2	3.4	6.5	11.1	7.7	5.2	4.4	4.9
All India	3.8	2.1	3.3	6.1	8.6	6.7	4.5	3.5	4.2

Source: Annual Report, PLFS 2020-21 Table-18, Page no.A-75, NSSO, MOSPI, GOI.

Employment in Public and Private Sectors (Industry group-wise)

The organized sector employment by industry group reveals that, there was an increase in employment, in financial and insurance activities, professional, scientific, and technical activities, public Administration & Defence sector and compulsory social security activities. Whereas there was decrease in employment in agriculture, forestry & fishing sector, mining & quarrying activities, manufacturing sector, electricity, gas, steam and air conditioning supply activities, construction sector, Wholesale, retail trade, repair of motor vehicles & motor cycles sector, transportation and storage sector, information and communication sector, education sector and human health & social work activities.

Further, organized sector employment has remained static in water supply; sewage, waste management & remediation activities, accommodation and food service activities, real estate activities, administrative and support service activities, arts, entertainment & recreation and other service activities.

Employment Exchange Statistics

The number of job seekers as per the live register figures of employment exchanges was 2.25 lakhs in November-2022 compared to 2.34 lakh at the end of March-2022, decrease of 3.70 percent. There was overall Increase of 1.62% in Matriculates' and Stenographers, and decrease of 15.23% in Post Graduates, 6.95% in Graduates, 10.60% in Diploma holders, 17.49% ITI and other certificate holders, and 8.19% in Below matriculation. Registrants on the Live Registers of Employment Exchanges in Karnataka are given in **Table 9.8**.

Table 9.8 : Registrants on the Live Registers of Employment Exchanges in Karnataka

Registrants	At the end of			Variation (Nov-22 /March-22) %.
	March 2021	March 2022	Nov 2022	
Post-Graduates.	3516	3250	2755	-15.23
Graduates.	45351	38795	36099	-6.95
Diploma Holders.	12290	11792	10545	-10.60
I.T.I. Apprenticeship, Other Certificate Holders.	42276	49794	41082	-17.49
Matriculates and Stenographers.	183015	116567	118464	1.62
Below Matriculation.	30557	18019	16543	-8.19
Total	317005	238217	225488	-5.34

Source: Department of Employment Training GoK.

Wage Employment Programmes

- Under MGNREGA As on 23-01-2023, an amount of Rs. 5944.13 Crores has been spent and 1098.59 lakh person days wage employment has been generated through which 27.58 lakh households have been provided employment. Progress achieved under MGNREGA district wise details is given in Annexures 9.5(a), 9.5(b) & 9.5(c), and 9.5
- Wage employment generated under State Government major programmes is 14.35 crore Man days between April 2022 to November 2022
- Several self employment individual schemes are also implemented by Karnataka State Finance Corporation, different welfare and other departments. Under Stree Shakti Programme 3298 groups taken loan and 12177 SHG groups benefited Revolving fund during the year upto November 2022
- Pension: Directorate of Social Security and Pension, Revenue Department of the Government is providing social security benefits. During the year upto November-2022, numbers in thousands, under old age pension for 1757 beneficiaries, Physically handicapped pension for 916, Widows pension for 1759 and Sandhya Suraksha Yojane pension for 2994 beneficiaries availed the pension

9.4 CHALLENGES

- ❑ Through the Industry Connect program (Demand Driven Training), the setting up of Industry Linkage Cell, in a bid to empanel industries as a training partner to provide demand-based, employment linked skill training programs in their existing facilities and then absorbing them into the industry post training.
- ❑ Skill on Wheels to provide short term training and placement to candidates in the most backward and rural areas of the state in their own places of residence.
- ❑ In the Skill Hub, youth undergo Career Counselling, Job and Skill Training, Entrepreneurship Guidance, Softskill Training and other programs to build capacity. Currently 90 Candidates have been trained.
- ❑ The Karnataka Skill Development Corporation has initiated the “One District, One Skill” program, and under it, the 31 Districts are in the process of training 100 artisans in modern techniques and equipment for the traditional skills of their region, to empower them in self employment and entrepreneurship, give relevant training, market linkage, and credit linkage support to them.
- ❑ Unorganized sector workers majority are self employers, having no fixed yearly/monthly earnings. Hence no methodology used for calculating their financial data.
- ❑ Occupational safety and wage compensation based on the risk involved. Risk coverage for risky jobs (hazardous industries)

9.5 WAY FORWARD FOR ACHIEVING \$1 TRILLION GDP

- ❑ Skilling the organized sector workforce and bringing them under the ambit of institutions could significantly increase the labour income. In addition, this should be supported with credit linked back ended subsidy for starting MSME.
- ❑ Provide adequate wages and treating them on par with the formal sector through developing institutions.
- ❑ Linking unemployed to MSMEs for skilling/upskilling through industrial associations by utilizing funds of National Apprenticeship Promotion Scheme
- ❑ To establish skill labs through public private partnership in schools and colleges, for the afternoon sessions, to upskill our population, for generating higher income prospects. Strengthening skilling infrastructure at ITIs and Polytechnics, through partnerships with industry leaders such as Siemens, Tata Technologies, to train the workforce on emerging technologies.
- ❑ Skill Department envisages to skill 5 lakh youth annually, of which 2.5 lakh youth shall be targeted under various SDEL schemes. There is need for vocational training centres in 48,393 Primary and Higher secondary schools and 3,870 colleges.
- ❑ “Centre of Skill Excellences” to be built to serve at levels of the skill competency, Competency in collaboration with Industries.
- ❑ Trainers at all these Centers of Skill excellence will have to be trained and should be able to demonstrate skills at the level of India Skills Competition.
- ❑ Instituting Human Resource Development Fund (HRDF) will be explored where certain level of contribution comes from industries based on the turnover and manpower strength for Reskilling and Upskilling of their employees.

- ❑ A Skill gap studies to be conducted for mapping work force requirement and supply for each skill sector. International Centre of Skill Excellence should be established at the State level.
- ❑ Youth aspiring for work in other countries should go through mandatory training in Skill Standards of that country/ International Skill Standards, Language training and Cultural Training. IMC-K has been Established for this purpose and 8 migrant research centres and migrant information centres have been established.
- ❑ National Rural Livelihood Mission will strengthen capacity of the staffs at all levels including State, District and Blocks for more effective services. It also scales up the implementation of Vulnerability Reduction Program and provides financial assistance. Sanjeevini also aims to fulfill its targets with convergence between the line departments and community institutions for effective implementation of various convergence program like Agri Nutri-garden, Cattle sheds, poultry, Van Dhan Vikas Kendrass and formation of Producer Groups / Farmer Producer's Organization etc along with LoKOS initiative, Stree SamarthyaYojane and Lakpathi Didi in the taluks by the end of the year 2022-23.
- ❑ Bridging the digital divide and strengthening non-digital infrastructure is required among unorganized workers.
- ❑ In Section 3(4) of the Unorganized Workers Social Security Act, 2008, appropriate welfare schemes may be formulated and implemented from time to time, including schemes for providing social security facilities to unorganized workers, and suitable measures will be taken to formulate and implement the social security schemes provided for in the Act in coming years.
- ❑ Department is planning to start Tele-Medicine facility in the interest of Insured Persons and their family members. Labour Department is planning to install the Point of Care Digital Diagnostic & Telemedicine Kiosks in all ESI Dispensaries in the State The Department is planning to start Oxygen Plant in all ESI Hospitals in the State and is planning to establish new ESI Hospitals at Tumkur, Udupi, Koppal, Doddaballapur, Bommasandra, Bellary, Harohalli, Shivamogga & Narasapu The Department is planning to upgrade ESI Hospital, Davanagere and Hubli from 50 to 100 bedded hospitals.
- ❑ Constructions workers welfare fund should be efficiently utilized for providing basic entitlements.
- ❑ To declare a district as "child and adolescent labour free zone action will be taken for implementation by the District Commissioners.
- ❑ Labour centric industries like coffee beans, jaggery sector etc to promote more for unorganized worker's employment.
- ❑ Employment of workers in the industrial sector is second largest after the employment of workers in the agriculture sector in the country. Hence, it is very essential to ensure occupational safety and health of workers in the factories.
- ❑ Karnataka needs a comprehensive framework and policy to gather more data and generate an Employment Policy to enhance job opportunities for its citizens in all sectors.

APPENDIX 9.1

**Deen Dayal Antyodaya Yojana – National Urban Livelihood Mission (DAY-NULM) 2022-23
(Physical & Financial Target Achievement) As on November -2022**

Name of the Component	Physical				Financial (Rs. in Lakhs)		
	Subject	Target	Achievement	%	Target	Achievement	%
Social Mobilization & Institutional Development	SHG Target	7000	6059	86.55	3986.02	809.71	20.41
	SHG Revolving Fund	6000	5428	90.47			
	ALF Target	500	255	51.00			
	ALF Revolving Fund	500	108	21.60			
	Capacity Building ALF	350	178	50.86			
Employment through Skill Training & Placement	Skill Training	5000	-	-	1388.75	948.13	68.27
	EDP	7775	2769	35.61			
Self-Employment Programme (Individual & Group)	SEP Individual	3500	1358	38.80	587.00	183.89	31.33
	SEP Group	158	75	47.47			
	SHG Credit Linkage	3500	1036	29.60			
Capacity Building and Training	Orientation on implementation at ULB's level for CAO/CO/CMM/ MTO's	550	-	-	692.13	423.76	61.23
	SMM's / CMM / MTO's Salaries						
Shelter for Urban Homeless	New Construction	5	1	20.00	2327.72	957.76	41.15
Support to Urban Street Vendor	Operational & Maintenance Functioning	78	78	100.00			
	O & M New (approved)	59	17	28.81			
	O & M New (Fresh Target) Proposals to be received & approved	11	1	9.09			

Name of the Component	Physical				Financial (Rs. in Lakhs)		
	Subject	Target	Achievement	%	Target	Achievement	%
Support to Urban Street Vendor	Refurbishment (Fresh target) proposals to be received and approved	17	8	47.06			
	Training for ALF members on shelter management	250	-	-			
	Executive Committee Meeting expenses	34	34	100.00			
	Shelter Management Committee meeting expenses	166	117	70.48			
	SAVIOUR App maintenance cost (AMC & Server charges)	1	1	100.00			
	Town vending committee (Sitting Fee)	5112	1980	38.73	502.10	521.19	103.81
	Vending Plan and Market Development	10	4	40.00			
	Sitting fee for Grievance redressal committee	277	-	-			
A&OE	A & OE	-	-	-	250.00	996.21	398.48
IEC		-	-	-	284.00	46.40	16.34
	Total				9999.72	4887.05	48.87

APPENDIX 9.2

Details of Aspirant registrations on Kaushalkar.com as on Nov 2022 Age (18 to 50 Years)

District	Regis-trations	Female	Male	Other	Minority	General	Sc	St	Specially Abled
Bagalkote	52775	21518	31257	19	183	37740	10684	3467	682
Ballari	69142	22145	46997	9	145	38856	17081	12433	618
Belagavi	77998	27378	50620	42	287	56080	14050	5346	2193
Bengaluru Rural	19191	7690	11501	4	37	12133	5590	1267	160
Bengaluru Urban	75835	28878	46957	18	209	53791	18394	2444	979
Bidar	42151	13660	28491	24	91	23081	12200	6492	263
Chamarajanagar	18790	9545	9245	1	67	7907	8405	2199	211
Chikballapur	27851	12486	15365	8	77	15573	8490	3538	165
Chikmagalur	30590	15165	15425	8	146	19965	8507	1747	217
Chitradurga	38283	18947	19336	14	125	19731	11054	7083	276
Dakshin Kannada	32578	17691	14887	13	181	26984	3238	2038	124
Davangere	34506	17031	17475	12	235	21443	8386	4164	266
Dharwad	56545	24807	31738	14	353	43560	8818	3402	398
Gadag	50193	25115	25078	54	219	37406	8673	3426	415
Hassan	46253	23805	22448	7	287	30798	13114	1848	199
Haveri	34949	15166	19783	21	150	24607	6085	3732	354
Kalburagi	96522	44418	52104	46	623	65886	26919	2306	742
Kodagu	8798	5390	3408	1	67	6069	1896	694	71
Kolar	30331	12286	18045	5	77	18396	9986	1778	89
Koppal	34440	14573	19867	18	172	23426	6594	3844	386
Mandya	32691	16996	15695	6	77	23496	7976	951	185
Mysore	64801	31527	33274	30	238	37009	18172	8698	654
Raichur	85718	26803	58915	32	344	55712	18577	10625	428
Ramanagara	17997	7113	10884	1	49	12256	4588	681	422
Shivamoga	33381	15649	17732	8	175	23325	7616	2047	210
Tumkur	54016	26110	27906	17	107	35089	13413	4944	446
Udupi	16471	8449	8022	3	115	12818	1946	1491	98
Uttar Kannada	22406	9415	12991	10	99	18760	2668	760	109
Vijayanagar	392	86	306	0	8	187	129	67	1
Vijayapura	43436	13825	29611	13	422	30596	10663	1431	311
Yadgiri	22994	8353	14641	11	201	14557	5218	2839	168
Total	1272024	542020	730004	469	5566	847237	299130	107782	11840

APPENDIX 9.3

**Unorganized workers Target for Karnataka by Gol in e-SHRAM portal District wise details
District Wise target under NDUW (E-Shram)**

Sl.No	District	Target
1	Bagalkote	584302
2	Belagavi	1480561
3	Bellary	760087
4	Bengaluru Division 1	2978452
5	Bengaluru Division 2	
6	Bengaluru Division 3	
7	Bengaluru Division 4	
8	Bengaluru Division 5	
9	Bengaluru Division 6	
10	Bengaluru Division 7	
11	Bengaluru Rural	307006
12	Bidar	527357
13	Chamarajanagar	316909
14	Chikkaballapur	388709
15	Chikmagalur	351571
16	Chitradurga	514978
17	Dakshina Kannada	646198
18	Davanagere	601633
19	Gadag	329289
20	Hassan	549640
21	Haveri	495171
22	Hubli	571922
23	Kalaburgi	794749
24	Kodagu	173310
25	Kolar	477840
26	Koppala	430799
27	Mandya	559543
28	Mysore	928445
29	Raichur	596681
30	Ramanagar	334240
31	Shivamogga	542212
32	Tumkur	829411
33	Udupi	363951
34	Uttar Kannada	245654
35	Vijayapur	673432
36	Yadagiri	363951
37	Yallapura	200000
	Total	18918003

Source : KSUWSSB, GoK

APPENDIX 9.4

Labour Department Financial Progress for the year 2022-23 till the end of January 2023

HOA	Scheme Name	BE	SEI	OB	Total Allocation	Allocation (BE+SE)	Productive Allocation	Admin/Salary Allocation	Release	Productive Release	Admin/Salary Release	Total Expenditure	Productive Exp	Admin/Salary Exp
2230-01-001-0-01	Commissioner of Labour	5.36	0.00	0.00	5.36	5.36	0.00	5.36	5.94	0.00	5.94	4.57	0.00	4.57
2230-01-101-0-01	Enforcement of Labour Laws	33.40	0.00	0.00	33.40	33.40	0.00	33.40	33.81	0.00	33.81	26.76	0.00	26.76
2230-01-101-0-05	Ashadeep	2.50	0.00	1.78	4.28	2.50	2.50	0.00	1.88	1.88	0.00	1.60	1.61	0.00
2230-01-103-4-00	Karnataka Labour Welfare Fund Contribution	35.00	0.00	0.00	35.00	35.00	35.00	0.00	11.25	11.25	0.00	3.63	3.63	0.00
2230-01-103-6-01	Child Labour Rehabilitation	4.00	0.00	0.14	4.14	4.00	4.00	0.00	3.00	3.00	0.00	2.75	2.76	0.00
2230-01-103-7-03	Insurance Scheme for Drivers	0.01	0.00	5.18	5.19	0.01	0.01	0.00	4.76	4.76	0.00	5.06	5.06	0.00
2230-01-111-0-05	Karnataka State Unorganised Labour Social Security Board	0.01	1.00	5.62	6.63	1.01	1.01	0.00	1.01	1.01	0.00	2.66	2.66	0.00
2230-01-277-0-01	State Institute for Labour Studies in Association with National Law School	1.00	0.00	0.00	1.00	1.00	1.00	0.00	0.75	0.75	0.00	0.72	0.72	0.00
4250-00-201-0-04	Construction of Karmika Bhavan	5.00	0.00	0.00	5.00	5.00	5.00	0.00	3.75	3.75	0.00	3.06	3.06	0.00
2210-01-102-0-01	Employees State Insurance Scheme - Medical Services	491.86	0.00	0.00	491.86	491.86	304.91	186.95	424.60	241.63	182.97	305.78	167.58	138.19
2210-02-101-2-03	Employees State Insurance -Ayurvedic Dispensaries	0.27	0.00	0.00	0.27	0.27	0.00	0.27	0.24	0.00	0.24	0.15	0.00	0.15
2230-01-102-0-01	Inspector of Factories	16.15	0.00	0.00	16.15	16.15	0.00	16.15	15.43	0.00	15.43	11.80	0.00	11.80
	Total	594.56	1.00	12.72	608.28	595.56	353.43	242.13	506.42	268.03	238.39	368.54	187.08	181.47

Source : Avalokana, Planning Department, GoK.

APPENDIX 9.5 (A)
Financial Performance Under MGNREGA during the Financial Year 2022-23 (Upto 23rd Jan-2023) (Rs. in Lakhs)

Sl. No	District	Opening Balance(OB)		Release of Last FY but Received during the Current FY		Release from State Fund (*) to districts	Authorisation of EFMS	Misc Receipt	Borrowed Fund		Inter-district fund transfer		Total Availability
		CB as OB	Entered OB	Centre	State				From other district or Revolving Fund	Re-funded to district/state	Fund transfer to other district	Fund received from other districts	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Bagalkote		-345.92	0	0	0	23457.24	0	0	0	0	0	23111.33
2	Ballari		-23.99	0	0	0	19609.25	0	0	0	0	0	19585.26
3	Belagavi		-509.66	0	0	0	67255.06	1	0	0	0	0	66746.4
4	Bengaluru		0.49	0	0	0	602.86	0	0	0	0	0	603.35
5	Bengaluru Rural		0	0	0	0	7447.75	0	0	0	0	0	7447.75
6	Bidar		169.52	0	0	0	26015.28	0	0	0	0	0	26184.8
7	Chamaraja Nagara		-156.46	0	0	0	11727.67	0	0	0	0	0	11571.22
8	Chikka-ballapura		-465.46	0	0	0	18775.18	0	0	0	0	0	18309.71
9	Chikka-magaluru		-170.52	0	0	0	15610.11	0	0	0	0	0	15439.59
10	Chitradurga		-295.72	0	0	0	27858.38	0	0	0	0	0	27562.66
11	Dakshina Kannada		59.76	0	0	0	5776.06	0	0	0	0	0	5835.81
12	Davanagere		25.8	0	0	0	16856.22	0	0	0	0	0	16882.02
13	Dharwar		20.35	0	0	0	13943.52	0	0	0	0	0	13963.87
14	Gadag		-56.2	0	0	0	13635.73	0	0	0	0	0	13579.53
15	Hassan		-141.45	0	0	0	22380.27	0	0	0	0	0	22238.82
16	Haveri		287.15	0	0	0	22387.97	0	0	0	0	0	22675.12

APPENDIX 9.5 (A)
Financial Performance Under MGNREGA during the Financial Year 2022-23 (Upto 23rd Jan-2023) (Rs. in Lakhs)

Sl. No	District	Opening Balance(OB)		Release of Last FY but Received during the Current FY		Release from State Fund (*) to districts	Authorisation of EFMS	Misc Receipt	Borrowed Fund		Inter-district fund transfer		Total Availability
		CB as OB	Entered OB	Centre	State				From other district or Revolving Fund	Re-funded to district/state	Fund transfer to other district	Fund received from other districts	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
17	Kalaburagi		1490.12	0	0	0	25098.11	0	0	0	0	0	26588.23
18	Kodagu		-8.55	0	0	0	3131.48	0	0	0	0	0	3122.93
19	Kolar		280.35	0	0	0	20161.02	0	0	0	0	0	20441.37
20	Koppal		0.9	0	0	0	38329.31	0	0	0	0	0	38330.22
21	Mandya		-160.36	0	0	0	12599.89	0	0	0	0	0	12439.54
22	Mysuru		-57.51	0	0	0	15601.79	0	0	0	0	0	15544.28
23	Raichur		214.58	0	0	0	46706.28	0	0	0	0	0	46920.87
24	Ramanagara		494.97	0	0	0	29500.9	0	0	0	0	0	29995.87
25	Shivamogga		399.81	0	0	0	13826.14	0	0	0	0	0	14225.95
26	Tumakuru		20.12	0	0	0	21054.67	0	0	0	0	0	21074.79
27	Udupi		1.32	0	0	0	4259.25	0	0	0	0	0	4260.57
28	Uttara Kannada		-377.47	0	0	0	8098.28	0	0	0	0	0	7720.81
29	Vijayanagara		-50.28	0	0	0	25517.72	0	0	0	0	0	25467.44
30	Vijayapura		-112.22	0	0	0	22027.94	0	0	0	0	0	21915.72
31	Yadgir		318.2				24065.91	0					24384.11
	All District Total	0.00	851.67	0	0	0	623317.3	1	0	0	0	0	624169.9
	State Fund	12552.97	58390.68	0	0	0	0	98090	0	0	0	0	-323762
	Grand Total Of State	12552.97	59242.35	0	0	0	623317.3	98091	0	0	0	0	300408.4

Source : RDPR, GoK

APPENDIX 9.5(B)

Financial Performance Under MGNREGA during the Financial Year 2022-23 (Upto 23rd Jan-2023)

(Rs. in Lakhs)

Sl. No.	District	Cumulative LB Estimation of Expenditure upto Reporting month	Cumulative Expenditure							%age Utilization	Balance	Payment due**					
			Actual Expenditure			Adm.Exp						On Un-skilled Wage	On Semi-skilled and Skilled Wage	On Material	Tax	Total	
			Un-skilled Wage	Semi-skilled and Skilled Wage	Material	Tax	Rec Exp	Non-Rec Exp	Total Adm. Exp								Total
1	2	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
1	Bagalkote	0	12967.39	131.16	9383.17	288.03	678.17	0	678.17	23447.93	101.46	-336.6	110.45	19.3	4130.19	160.71	4420.65
2	Ballari	0	14059.82	150.61	4923.3	144.28	326.88	1.46	328.35	19606.35	100.11	-21.09	61	32.49	1222.14	44.69	1360.32
3	Belagavi	0	32596.28	572.94	25262.35	1193.65	1507.98	8.81	1516.79	61142.01	91.6	5604.38	282.45	51.93	10273.41	669.82	11277.61
4	Bengaluru	0	294.87	0.08	245.57	3.99	19.87	0	19.87	564.37	93.54	38.99	6.48	1.6	60.11	3.5	71.69
5	Bengaluru Rural	0	4821.01	11.01	2332.04	61.94	210.89	9.82	220.71	7446.71	99.99	1.04	60.67	0	1128.69	46.25	1235.61
6	Bidar	0	13394.98	20.37	10362.39	1104.8	549.8	11.03	560.83	25443.37	97.17	741.43	158.73	0	5823.08	671.58	6653.39
7	Chamaraja Nagara	0	5524.49	50.43	5585.49	195.3	312.47	0.06	312.53	11668.24	100.84	-97.03	109.87	2.32	2495.75	127.29	2735.23
8	Chikka-ballapura	0	8570.63	70.78	8439.9	712.88	433.3	2.63	435.93	18230.12	99.57	79.59	125.68	2.06	2666.38	228.93	3023.05
9	Chikka-magaluru	0	6709.55	49.94	6941.13	0.29	411.68	0.02	411.7	14112.6	91.41	1326.99	81.81	22.41	1531.66	0.23	1636.11
10	Chitradurga	0	11824.78	140.73	13882.27	3.95	499.33	13.65	512.99	26364.71	95.65	1197.95	114.49	8.74	2488.88	0.02	2612.13
11	Dakshina Kannada	0	4032.28	44.09	1380.22	70.5	247.53	0	247.53	5774.61	98.95	61.2	34.03	9.34	967.55	57.48	1068.4
12	Davanagere	0	8186.52	95.45	6353.81	210.94	554.56	0	554.56	15401.27	91.23	1480.75	76.22	8.04	2053.27	90.87	2228.4
13	Dharwar	0	5973.93	97.87	6156.59	229.43	321.37	0	321.37	12779.19	91.52	1184.68	161.82	3.65	2423.31	103.94	2692.72
14	Gadag	0	7495.4	93.88	5386.97	237.18	414.76	3.93	418.68	13632.11	100.39	-52.58	120.49	16.09	1045.59	40.14	1222.31
15	Hassan	0	12239.42	108.72	8204.57	37.54	893.53	10.54	904.07	21494.32	96.65	744.5	98.04	4.97	1832.52	45.05	1980.58
16	Haveri	0	11881.32	89.76	8747.19	378.35	479.39	6.25	485.64	21582.26	95.18	1092.86	251.75	5.77	4965.53	325.93	5548.98
17	Kalaburagi	0	15679.43	162.11	8131.59	143.28	486.93	15.53	502.46	24618.88	92.59	1969.35	141.91	0.57	3154.79	65.75	3363.02
18	Kodagu	0	1653.41	0	1192.25	101.48	139.02	1.44	140.46	3087.6	98.87	35.32	6.11	0.04	325.58	28.77	360.5
19	Kolar	0	10313.77	72.94	8510.04	596.99	581.82	7.98	589.8	20083.55	98.25	357.82	111.73	0	3080.34	218.71	3410.78

APPENDIX 9.5(B)
Financial Performance Under MGNREGA during the Financial Year 2022-23 (Upto 23rd Jan-2023) (Rs. in Lakhs)

Sl. No.	District	Cumulative LB Estimation of Expenditure upto Reporting month	Cumulative Expenditure							%age Utilization	Balance	Payment due**					
			Actual Expenditure			Adm.Exp						Total	On Un-skilled Wage	On Semi-skilled and Skilled Wage	On Material	Tax	Total
			Un-skilled Wage	Semi-skilled and Skilled Wage	Material	Tax	Rec Exp	Non-Rec Exp	Total Adm. Exp								
20	Koppal	0	21710.76	280.7	11673.97	600.73	629.48	0.84	630.32	34896.48	91.04	3433.73	296.54	52.85	2466.76	161.2	2977.35
21	Mandya	0	6686.71	84.99	5043.73	179.42	426.79	6.58	433.37	12428.22	99.91	11.32	147.83	4.58	3059.65	143.88	3355.94
22	Mysuru	0	7431.53	61.86	7520.42	114.07	361.03	0	361.03	15488.92	99.64	55.36	175.4	0.22	2033.97	41.74	2251.33
23	Raichur	0	26862.71	332.27	13813.82	1110.29	1113.84	161.09	1274.94	43394.02	92.48	3526.84	191.09	51.11	6969.19	451.6	7662.99
24	Ramanagara	0	10806.78	85.99	14668.57	320.89	546.36	1.08	547.44	26429.68	88.11	3566.19	97.18	6.75	2542.63	115.9	2762.46
25	Shivamogga	0	8889.78	184.57	3796.85	112.01	515.95	7.48	523.43	13506.63	94.94	719.31	65.14	30.7	1194.78	28.77	1319.39
26	Tumakuru	0	10406.76	199.2	8476.87	79.88	660.25	4.33	664.58	19827.29	94.08	1247.5	176.18	21.8	5939.01	61.88	6198.87
27	Udupi	0	2391.69	23.2	1577.81	4.31	135.66	0.08	135.74	4132.75	97	127.82	21.73	1.79	690.87	4.38	718.77
28	Uttara Kannada	0	4366.62	59.25	3117.25	152.15	321.45	0	321.45	8016.74	103.83	-295.93	64.74	4.61	689.22	47.01	805.58
29	Vijayanagara	0	18003.21	231.43	6563.77	287.92	0	0	0	25086.33	98.5	381.11	158.54	42.9	1472.92	82.24	1756.6
30	Vijayapura	0	10907.38	147.9	9375.07	3.33	523.96	0	523.96	20957.64	95.63	958.08	122.9	24.68	1366.13	2.07	1515.78
31	Yadgir		13210.2	43.15	8234.05	564.37	21	0	21	22072.77	90.52	2311.33	179.72	2.3	1905.73	181.74	2269.49
	All District Total	0	329893.43	3697.4	235283	9244.17	14325.05	274.6	14599.68	592717.68	94.96	31452.21	3810.72	433.61	81999.63	4252.1	90496
	State Fund						1616.15	80.16	1696.3	1696.3		-325457.86					
	Grand Total Of State	0	329893.43	3697.4	235283	9244.17	15941.2	354.8	16295.98	594413.98	197.3	-294005.65	3810.72	433.61	81999.63	4252.1	90496

Source : RDPR, GoK

APPENDIX 9.5(C)

Employment Generated during the year 2022-23 (Upto 23rd Jan-2023)

Sl No	Districts	No. of Registered		No. of Jobcard deleted in current YR		No. of Jobcard included in current YR		Cumulative No. of HH issued Jobcards			Employment demanded		Employment offered		Employment Availed			No. of HH which are beneficiary of land reform/ IAY	No. of Families Completed 100 days	No. of Dis-abled beneficiary individuals	
		House-hold	Persons	House-hold	Persons	House-hold	Persons	SCs	STs	Others	Total	House-hold	Persons	House-hold	Persons	House-hold	Persons				Person days
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Bagalkote	270765	557509	1627	4690	22201	38906	47597	16628	206490	270715	118187	214191	115084	205968	101359	176983	4296847	1764	0	2252
2	Bailari	172017	486679	74	1293	7105	18792	34707	44568	92449	171724	107268	241172	106657	238095	101381	218720	5131591	2237	0	1398
3	Belagavi	786885	1639685	636	2835	46446	74432	82101	59603	644793	786497	288989	460678	284413	448321	252876	386950	10714551	2279	0	3306
4	Bengaluru	59907	135856	28	89	9490	13320	16026	1610	38328	55964	3425	5795	3260	5356	2958	4886	96972	21	0	8
5	Bengaluru Rural	114001	252045	1307	5022	12099	19709	23902	5795	84295	113992	37891	69585	35966	63740	33426	58387	1578284	343	0	546
6	Bidar	247162	479889	6785	18345	15021	27818	58610	36526	147503	242639	122157	208554	120452	202923	109886	181234	4347434	168	0	477
7	Chamaraja Nagara	223485	520084	93	1125	4340	9428	55077	23650	144286	223013	61224	104174	60073	100425	54232	88681	1794641	209	0	434
8	Chikka-bailapura	224034	555286	169	1613	3844	9261	54014	30529	139019	223562	86263	157568	83911	149287	76338	132875	2807973	576	0	4176
9	Chikka-magaluru	174477	396905	48	417	13283	22300	37752	7802	128584	174138	55628	104939	54169	100639	51615	95069	2176366	572	0	170
10	Chitradurga	326774	783721	2272	17186	7468	17662	70508	64631	188633	323772	109877	193591	107255	184485	98117	165906	3837985	521	0	333
11	Dakshina Kannada	167108	353224	879	4070	17553	28170	19155	13220	134416	166791	29922	53236	29397	51637	28330	49597	1306346	389	0	74
12	Davanagere	235581	538624	34	205	12913	26676	50365	32433	152532	235330	75510	140126	74016	135560	66329	118896	2650551	548	0	297
13	Dharwar	167783	411905	133	1641	13124	21466	12422	8554	146456	167432	56716	108706	55050	103166	50172	92261	1968874	227	0	199
14	Cadag	165328	410407	959	5848	5158	13648	27730	11988	123981	163699	90656	194084	89830	190235	78694	161311	2436927	234	0	886
15	Hassan	280265	660616	373	2700	9612	21321	47343	4805	227827	279975	109365	211210	105931	199503	98050	182119	3953678	1168	0	564
16	Haveri	263389	618784	143	1494	15170	29417	36913	26566	195393	258872	114389	229272	111609	220439	93989	181335	3903469	529	0	487
17	Kalaburagi	410869	875071	21339	61346	24700	45151	91198	5111	305058	401367	197863	365838	194928	354797	170937	301572	5165986	369	0	583
18	Kodagu	86208	188184	155	236	10948	16268	9433	5766	65834	81033	14688	25295	14133	23887	13290	22224	535904	77	0	150
19	Kolar	239134	595317	253	1630	5127	13306	63828	14105	161149	239082	85858	145700	83566	138956	77881	127169	3353507	424	0	487

APPENDIX 9.5 (C)

(Upto 23rd Jan-2023)

Employment Generated during the year 2022-23

Sl No	Districts	No. of Registered		No. of Jobcard deleted in current YR		No. of Jobcard included in current YR		Cumulative No. of HH issued jobcards				Employment demanded		Employment offered		Employment Availed			No. of HH which are beneficiary of land reform/ IAY	No. of Dis-abled beneficiary individuals	
		House-hold	Persons	House-hold	Persons	House-hold	Persons	SCs	STs	Others	Total	House-hold	Persons	House-hold	Persons	House-hold	Persons	Person days			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
20	Koppal	298449	797087	612	43015	10362	44673	49490	37775	211099	298364	181481	394598	180577	390718	171389	360434	7459238	2330	0	3068
21	Mandya	344313	751852	449	2223	14106	24772	40870	3046	299721	343637	73858	122793	72095	117430	64963	103441	2194355	323	0	373
22	Mysuru	340525	850442	718	3710	18122	30678	60637	40045	233751	334433	75877	142359	74129	136087	67614	122471	2409484	622	0	221
23	Raichur	349945	823059	10796	37917	15220	38343	59857	73381	210412	343650	247560	511999	246047	504757	232948	464705	9845479	761	0	955
24	Ramanagara	203499	449985	3351	16103	3956	9351	34188	4256	163964	202408	95167	163350	93926	158658	85694	141094	3502742	785	0	328
25	Shivamogga	244624	567176	379	5958	8965	20922	47326	10788	186282	244396	102368	193211	101427	189255	91202	162735	2894341	340	0	558
26	Tumakuru	434444	1043813	6889	32868	11603	25383	68340	31137	334632	434109	109470	201257	106953	191801	96513	169821	3370720	387	0	520
27	Udupi	117591	237423	103	376	11067	21309	6671	6218	103896	116785	22599	40031	22375	39343	20826	36290	769649	296	0	60
28	Uttara Kannada	201315	449236	176	1375	19300	30052	13199	5771	177355	196325	49823	88469	49370	87133	43026	73747	1415576	225	0	132
29	Vijayanagara	220470	593232	79	1627	6629	20127	55030	41777	123430	220237	129332	272634	128572	268987	117633	237326	6123501	3802	0	810
30	Vijayapura	345592	771301	1218	5228	28670	44255	66316	4379	274477	345172	113278	188867	109821	180669	98822	159364	3540781	634	0	1317
31	Yadgir	268028	528379	1445	5335	12393	29628	52253	26622	188575	267450	118591	194710	117146	190641	107579	172089	4275821	441	0	479
	Total	7983967	18322776	63522	287520	415995	806544	1392858	699085	5834620	7926563	3085280	5747992	3032138	5572898	2758069	4949692	109859573	23601	0	25648

Source : RDPR.Gok

APPENDIX 9.5

District wise Progress Under MGNREGA 2022-23

(Upto 23rd Jan-2023)

District	Total Cumulative Expenditure (Rs. in Lakhs)	Person days Generated (No)	Cumulative No. of HH Provided Employment (No)	Works (No)		
				Works Under taken	Completed	Under Progress
Bagalkote	23447.93	4296847	101359	34804	19400	15404
Ballari	19606.35	5131591	101381	37920	10656	27264
Belagavi	61142.01	10714551	252876	130027	55758	74269
Bengaluru	564.37	96972	2958	3624	1392	2232
Bengaluru Rural	7446.71	1578284	33426	21309	8544	12765
Bidar	25443.37	4347434	109886	63903	19627	44276
Chamaraja Nagara	11668.24	1794641	54232	32741	13621	19120
Chikkaballapura	18230.12	2807973	76338	42033	17157	24876
Chikkamagaluru	14112.6	2176366	51615	41074	19061	22013
Chitradurga	26364.71	3837985	98117	70255	34799	35456
Dakshina Kannada	5774.61	1306346	28330	31044	12169	18875
Davanagere	15401.27	2650551	66329	26033	9820	16213
Dharwar	12779.19	1968874	50172	43391	22083	21308
Gadag	13632.11	2436927	78694	34907	10615	24292
Hassan	21494.32	3953678	98050	80756	30465	50291
Haveri	21582.26	3903469	93989	59898	7399	52499
Kalaburagi	24618.88	5165986	170937	68316	46407	21909
Kodagu	3087.6	535904	13290	7169	7422	-253
Kolar	20083.55	3353507	77881	62028	16537	45491
Koppal	34896.48	7459238	171389	59260	27719	31541
Mandya	12428.22	2194355	64963	45138	14808	30330
Mysuru	15488.92	2409484	67614	61459	27173	34286
Raichur	43394.02	9845479	232948	68914	28066	40848
Ramanagara	26429.68	3502742	85694	126392	72248	54144
Shivamogga	13506.63	2894341	91202	37103	15853	21250
Tumakuru	19827.29	3370720	96513	103374	32294	71080
Udupi	4132.75	769649	20826	19039	6612	12427
Uttara Kannada	8016.74	1415576	43026	34109	12121	21988
Vijayanagara	25086.33	6123501	117633	40112	19699	20413
Vijaypura	20957.64	3540781	98822	47168	26529	20639
Yadgir	22072.77	4275821	107579	53280	29058	24222
All District Total	592717.68	109859573	2758069	1586580	675112	911468
State Fund	1696.3					
Grand Total of State	594413.98	109859573	2758069	1586580	675112	911468

Source : RDPR.GoK

INTRODUCTION

Economic infrastructure refers to the facilities, activities and services which support operation and development of other sectors of the economy. This chapter focuses on Energy, Roads, transport Infrastructure and Communications and banking services.

Sustainable Development Goal 7 aims at ensuring access to affordable, reliable, sustainable, and modern energy for all. For the year 2020-21, percentage of households electrified and percentage of households using clean cooking fuel indicators, Karnataka is the achiever with score 100. In SDG 13- Climate action, percentage of renewable energy out of total installed generating capacity (including allocated shares) state is the best as compared to neighbouring state Kerala(40.16) and India(36.37). For SDG 9(Industry, Innovation and infrastructure), State stands in 6th position. For the year 2020-21, percentage of targeted habitations connected by all-weather roads under Pradhan Mantri Gram Sadak Yojana (PMGSY) indicator, the state is achiever with a score of 100. For the indicator, score as per Logistics Ease across Different States (LEADS), Gujarat is best performing state 3.62(score 49), whereas Karnataka stands in 4th position with a value of 3.37 (Score 40). Karnataka stands in 2nd position among the southern states in Urban tele density (SDG Goal 9 indicator, number of mobile connections per 100 persons) and for the indicator, number of internet subscribers per 100 population the state has subscription of 69.35, followed by Gujarat (64.79), Tamilnadu(65.68), Punjab(84.35) and all India (55.41).

10.1. POWER SECTOR

Power generation in the public sector is managed by the Karnataka Power Corporation Limited (KPCL) whereas the Karnataka Power Transmission Corporation Limited (KPTCL) deals with transmission of power and load despatch functions. As part of the restructuring of the power sector in the State, the erstwhile Karnataka Electricity Board (KEB) was restructured as KPTCL in 1999 by giving it a corporate status. As per the Electricity Act 2003, KPTCL, being the State's transmission utility, is not empowered to trade in electricity. Therefore, the distribution companies directly procure power from power generators, both public and private and ESCOMs own distribution network, and use KPTCL's transmission network to distribute electricity.

10.1.1 Power Generation

The total installed generation capacity both in the public sector and private sector including the State's share in the Central Generation Station (CGS) upto November 2022 is 31634.58MW. The installed capacity in the public sector is 13,601.35MW (including CGS allocation) and the private sector's share is 18033.23MW. In the private sector capacity, the percentage share of renewable energy sources of power generation capacity (Excluding the Share of IPP Thermal & Mini Hydel) to overall installed capacity is 47.21%. The status of power sector in terms of both installed capacity and electricity generation for Karnataka is provided in **Table 10.1**.

Table 10.1 : Progress in Power Sector

Source	Units	2018-19	2019-20	2020-21	2021-22	2022-23 (Upto Nov-22)
A. Installed Capacity						
1. Public Sector						
a) Hydel	MW	3,680.00	3,681.00	3,681.00	3,681.00	3681.00
b) Wind energy	MW	5.00	5.00	5.00	5.00	5.00
c) Thermal	MW	5,020.00	5,020.00	5,020.00	5,020.00	5,020.00
d) Diesel plants	MW	0	0	0	0.00	0.00
e) Solar PV plant	MW	34	34	34	34.00	34.00
Total		8,739.00	8,740.00	8,740.00	8,740.00	8,740.00
f) Jurala Hydro	MW	117.00	117.00	117.00	117.00	117.00
2. Private Sector						
a) IPP Thermal (including small thermal-conventional)	MW	2,183.30	2,192.30	2,192.30	2197.30	2197.30
b) Mini Hydel	MW	853.46	903.46	903.46	903.46	903.46
c) Wind energy	MW	4,754.34	4,814.34	4,962.34	5144.14	5218.39
d) Co-generation & Biomass	MW	1,837.19	1,870.19	1,870.19	1870.19	1870.19
e) Solar (including solar roof top)	MW	6,093.38	7,266.19	7,355.01	7556.30	7843.89
Total		15,721.67	17,046.48	17,283.30	17671.39	18033.23
3. Central Generating Station Allocation	MW	4,158.00		4,865.00	4865.00	4744.35
Total Installed Capacity		28,740.67	30,061.48	31,005.30	31,393.39	31,634.58
B. Electricity Generation(Net)						
a) Hydel (KPCL)	MU	11,857.65	13,622.00	12,232.53	13582.86	8681.16
b) Thermal(KPCL)	MU	11,861.03	11,444.12	6,366.88	17143.42	7683.23
c) Wind	MU	9,839.14	10,050.70	9,434.92	9376.45	6061.06
d) Solar PV plant	MU	6,797.83	8,026.02	8,888.70	9281.34	4554.15
e) Mini Hydel	MU	1,677.54	1,816.45	2,140.12	2346.35	1385.87
f) Co-gen and Bio-Mass	MU	2,500.56	2,383.20	2,777.98	2976.83	722.31
g) Private sector	MU	6,650.56	4,589.89	2,918.21	2548.04	1280.36
Total		51,184.31	51,932.38	44,759.34	57,255.29	30,368.14
C. Electricity imports						
a) Central projects	MU	23,205.01	22,665.07	23,060.76	18241.82	8100.11
b) Other States-Short Term	MU	965.83	0			
Total	MU	24,170.84	22,665.07	23,060.76	18241.82	8100.11
Total Electricity supply	MU	75,355.15	74,597.45	67,820.10	75,497.11	38,468.25

Source: KPCL, KPTCL, KREDL and PCKL.

YTPS not included in net generation

Note: Capacity of 0.82 MW has been added twice in the year 2010-11. The same has been rectified during December-2018 and the Capacity is deducted in the cumulative Capacity.

The State has added 361.84MW of Generating capacity in renewable energy sources during the FY 2022-23 (Upto Nov-22).The State is also in the forefront of adding

capacity addition in Renewable Energy Sector and there is constant increase in capacity under this category. The availability factors of most of the generating plants have been found to be relatively high suggesting an efficient preventive maintenance system being in place.

10.1.1 Plant Load Factors (Capacity Utilisation)

The average cost of power generation is higher in thermal plants as compared to Hydel plants and the State's reliance on thermal plants for power generation has increased over the years. As a result, the average cost of power generated has been increasing. Power generation, Imports, T & D losses and consumption of power since 2017-18.

10.1.2 Purchase of power from other States and energy exchanges

Towards meeting shortages in electricity supply, Karnataka buys power from neighbouring States, other States and from energy exchanges. The details of such purchases during last three years & in 2022-23 (Upto Nov-22) are given in **Table 10.2 (a&b)**. There is increase in purchase from Renewable Energy Source / NCE of energy due to increase in capacity addition.

Table 10.2(a): Procurement from other States through bilateral trade & purchase through Energy exchanges:

Year	Energy in MUs	Amount (Rs. in Crs)	Average rate Rs/kWh
2020-21	5.18	2.56	4.95
2021-22	502.64 *	212.53	4.23
2022-23 (Upto Nov-22)	224.13	194.89	8.70

*Out of 502.64 MUs, 466.13 MUs for REC premium recovery trade and 36.51 MUs for optimization / meeting deficit

Table 10.2(b): Sale of Surplus power through over Arching Agreement / DEEP Portal tenders / Energy exchanges (IEX& PXIL)

Year	Energy in MUs	Amount (Rs. in Crs)	Average rate Rs/kWh
2021-22	6709.68	2895.62	4.32
2022-23 (Upto Nov-22)	4,271.29	2,476.40	5.80

Source: Power Company of Karnataka Limited

10.1.3 Power Transmission: Karnataka Power Transmission Utility (KPTCL)

The status of transmission infrastructure as at the end of Nov-2022 is given in **Table 10.3**.

Table 10.3: Power stations & transmission lines of KPTCL (as on 30.11.2022)

Voltage Level	No. of stations	Transmission Line in CKMs
400 KV	8	3,701.34
220 KV	127	12,841.24
110 KV	469	121,40.76
66 KV	709	12,498.95
Total	1,313	41,182.29

Source: KPTCL

The transmission lines of different voltage classes, new substations and capacity augmentation in the existing substations added during the last 5 years from 2018-19 to 2022-23 (upto Nov-2022) are shown in **Tables 10.3(a)** and **10.3(b)**.

Table 10.3(a): Transmission lines of different voltage class added during the period (Transmission line length in Ckms)

Voltage class in kV	2018-19	2019-20	2020-21	2021-22	2022-23 (Upto Nov-22)	Total
400	24.504	130.27	2.62	0	0	157.394
220	224.078	106.14	579.17	434.19	218.85	1562.43
110	202.617	202.68	260.96	654.58	310.41	1631.25
66	282.783	355.16	345.67	374.67	348.60	1706.88
Total	733.982	794.25	1188.42	1463.44	877.86	5057.95

Source: KPTCL

Table 10.3(b): Details of new sub stations added and capacity augmented during the last 5 years period.

Voltage Class (KVA)	New Sub-stations added					Total
	2018-19	2019-20	2020-21	2021-22	2022-23 (Upto Nov-22)	
400	-	1	2	-	-	3
220	4	3	6	10	3	26
110	10	9	12	21	4	56
66	21	19	16	10	7	73
Total	35	32	36	41	14	158

Voltage Class (KVA)	Sub-stations capacity augmented					TOTAL
	2018-19	2019-20	2020-21	2021-22	2022-23 (Upto Nov-22)	
400	-	-	-	-	-	
220	4	1	5	7	9	26
110	26	23	38	58	47	192
66	30	60	76	107	78	351
Total	60	84	119	172	134	569

Source: KPTCL

Transmission & Distribution Losses: (T&D Losses)

The State Government has taken various measures to reduce T&D and AT&C losses.

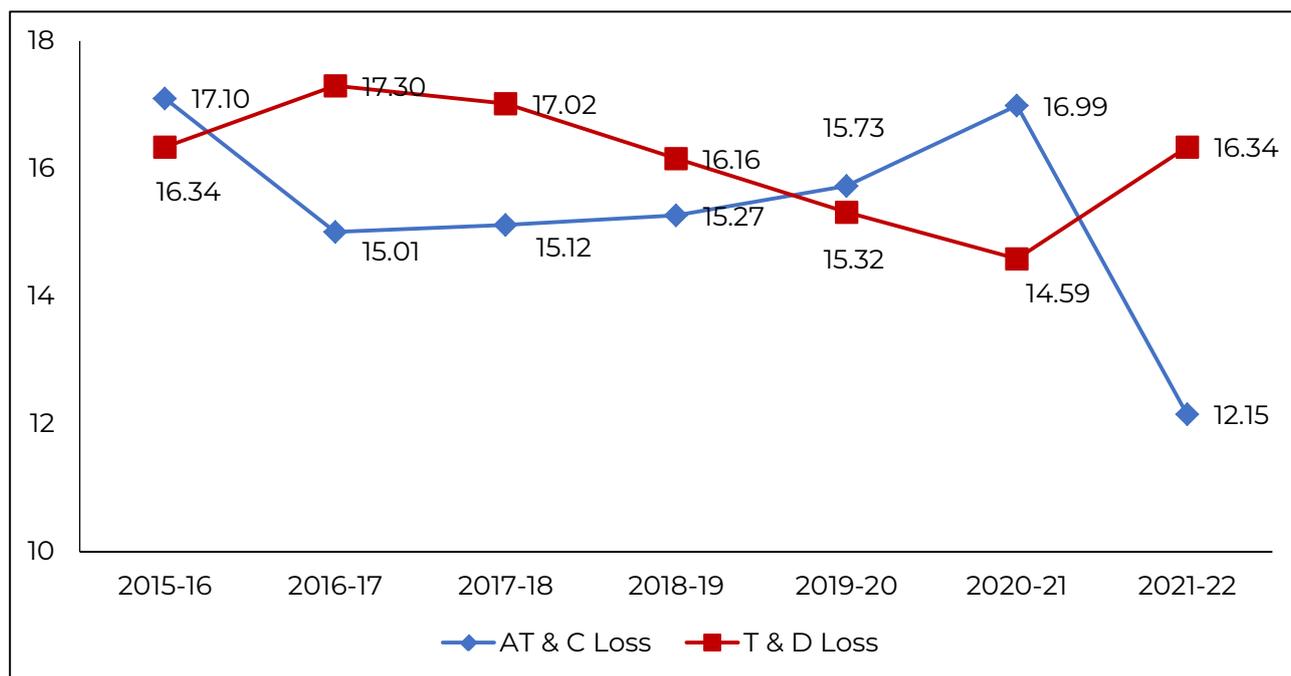
Measures taken for reduction of T&D loss:

- ❑ Bifurcation of lengthy HT / LT lines & overloaded 11KV feeders.
- ❑ Re-conductor ing of HT/LTlines and reduction of HT/LT ratio.
- ❑ Providing additional transformers to release over loaded DTCs.
- ❑ 100% Metering and Accuracy in Billing.
- ❑ Load balancing and bifurcation of load.
- ❑ Strengthening of Vigilance/MT Activities.
- ❑ Replacing Electromechanical /Static/High precision energy meter.
- ❑ Encouraging consumers to install energy efficient equipment's.

Measures taken for reduction of AT&C Loss:

- ❑ Accuracy and 100% billing of consumer installations.
- ❑ 100% collection efficiency.
- ❑ Improving vigilance activities.
- ❑ Periodical rating of HT & LT Installations.

Karnataka's power sector has its T&D losses 16.34% in 2015-16 and also 16.34% in 2021-22. The utilities in the sector are making planned investment for strengthening and augmenting the network for reduction of technical loss. Aggregate Technical & Commercial (AT&C) losses during 2015-16 to 2021-22. The AT&C Loss which was 17.10% in 2015-16 has been brought down for 12.15% in 2021-22. Transmission loss for the year 2021-22 is 2.987%



10.1.4 Power Consumption

As shown in **Table 10.4**, in the year 2021-22, the agricultural sector (water pumping through irrigation pump sets) accounted for highest share of electricity consumed with a share of 37.32% with domestic occupying a distinct second position with a share of 26.36%. However, in terms of paying for the electricity, the agricultural sector pays the least whereas the commercial consumers pay the highest tariff.

Table 10.4: Electricity consumption by various category of Consumers

Category of Consumers	Consumption (MU)		% of Sales		Demand (Rs. in Crs)		ARR Ps/Kwh	
	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)
Industries	8085.12	6255.50	13.84	15.83	7796.50	6116.65	9.64	9.78
IP Sets	21802.53	12186.41	37.32	30.84	12530.60	7594.38	5.75	6.23
Domestic	13837.17	9964.41	23.69	25.22	10286.76	8097.89	7.43	8.13
LT Industries	2032.45	1472.33	3.48	3.73	1863.49	1454.37	9.17	9.88
Water Works & Sewage pumping	4499.14	3131.88	7.70	7.93	3131.62	2361.68	6.96	7.54
Commercial Lighting	5444.14	4580.06	9.32	11.59	6441.67	5559.27	11.83	12.14
Public Lighting	1143.04	802.83	1.96	2.03	999.35	743.44	8.74	9.26

Category of Consumers	Consumption (MU)		% of Sales		Demand (Rs. in Crs)		ARR Ps/Kwh	
	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)	2021-22	2022-23 (Up to Nov-22)
Others	1573.57	1117.71	2.69	2.84	2170.11	1627.10	13.79	14.56
Total	58417.98	39511.13	100.00	100.00	45220.10	33554.78	7.74	8.49

Source: ESCOMs

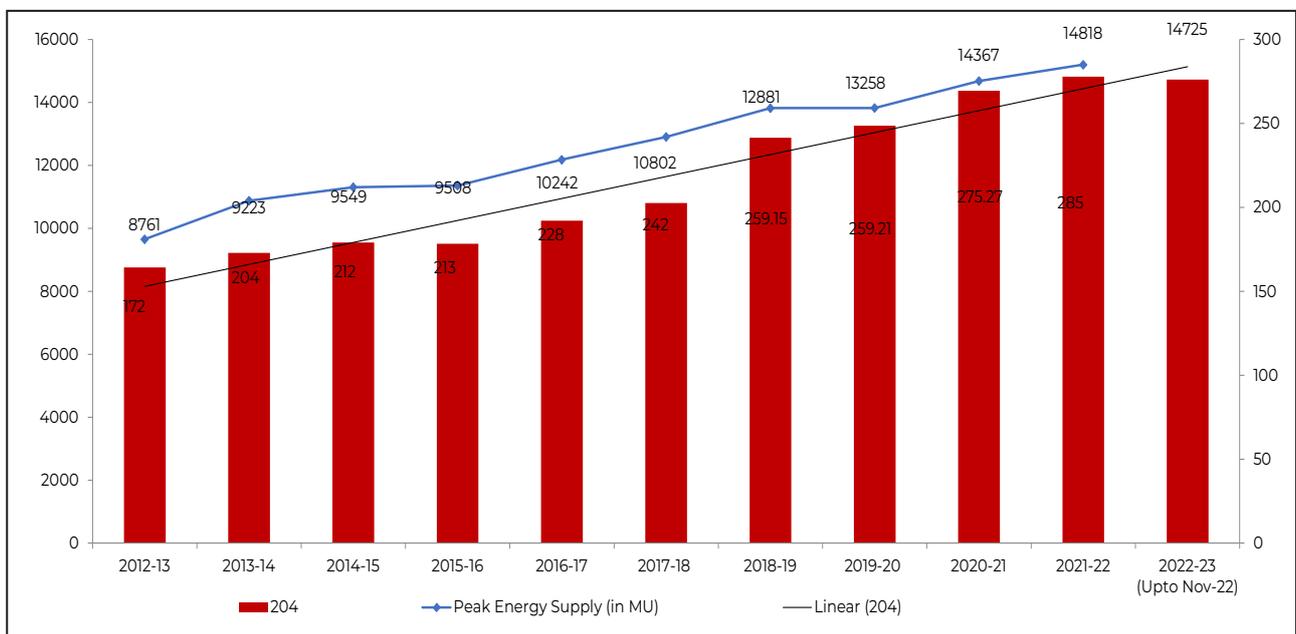
* After T & D losses as on 31.03.2022.

* ARR - Average Revenue Realisation.

10.1.5 Electricity Demand and Supply Status

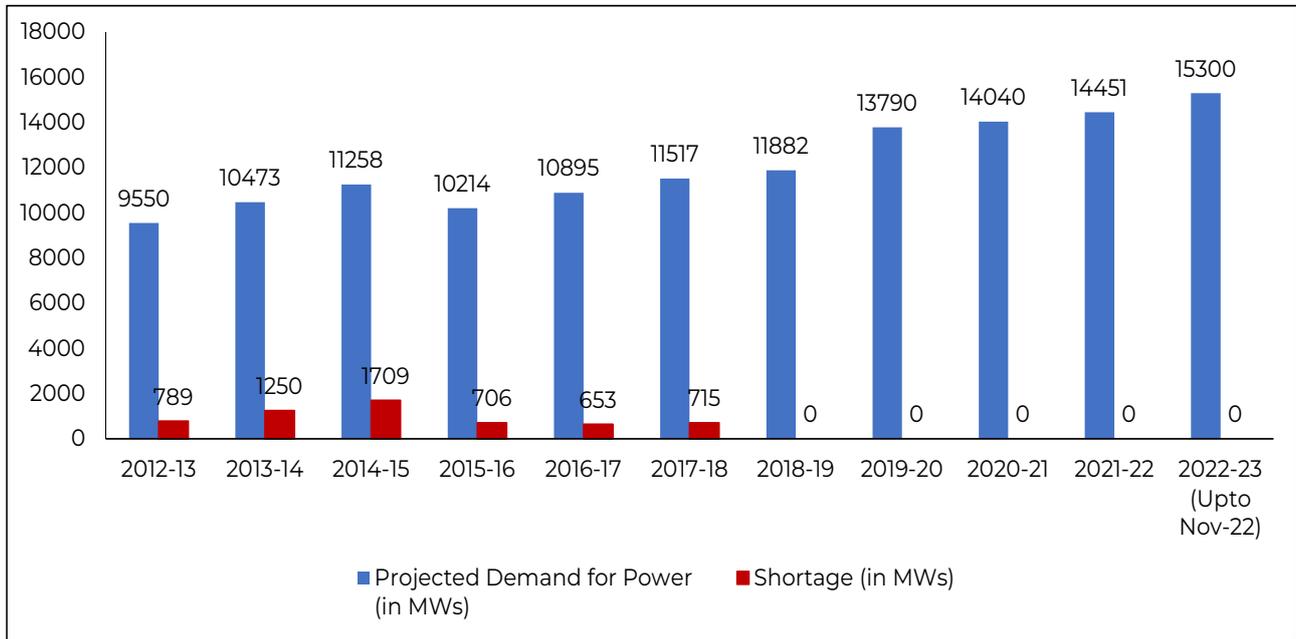
Trends in peak demand for power and peak energy supply per day during the years 2012-13 to 2022-23 (Upto November-2022) are given in **Figure 10.1**. It may be observed that both the peak demand and peak energy supply per day are showing increasing trends since 2012-13. The peak demand met during 2021-22 was 14818MW and in 2022-23 (Upto Nov-22) met a 14725MW peak. The anticipated peak demand to be met during 2022-23 is likely to be around 15300MW.

Figure 10.1: Trends in Peak Power Demand and Peak Energy Supply

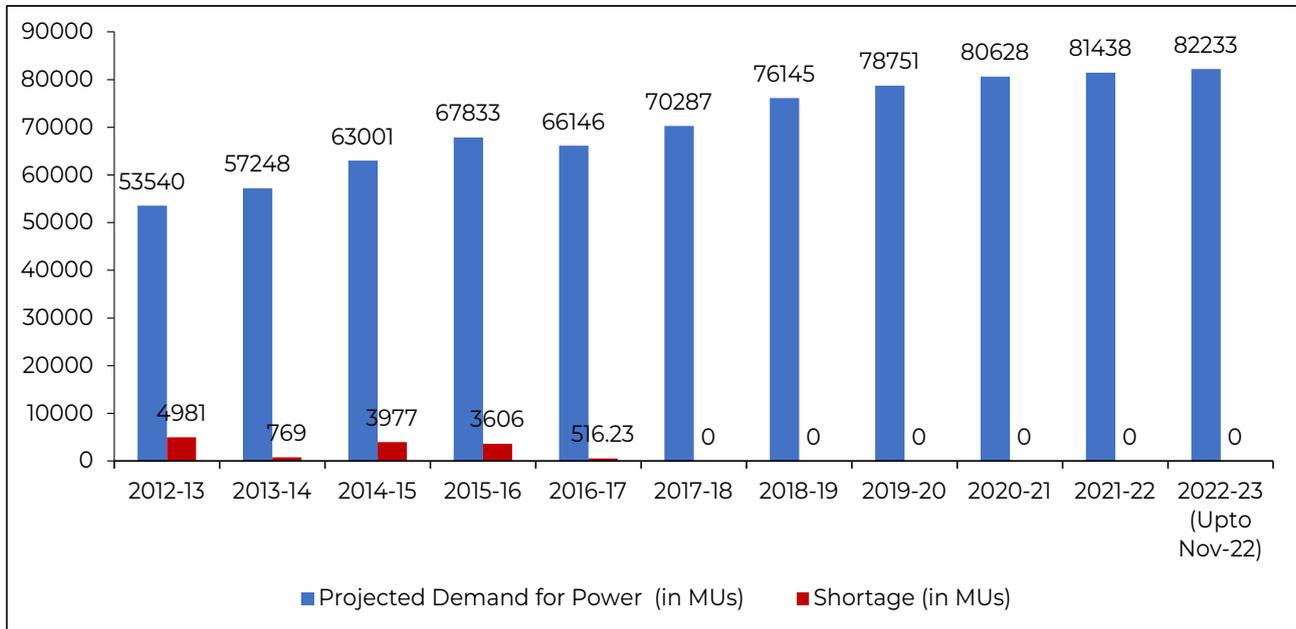


Source: KPTCL

Figures 10.1(a) and 10.1(b) shows the trends in estimated gaps in demand and supply for both power and energy. The power supply shortage was highest at 1709 MW in 2014-15 (**Figure 10.1(a)**) and energy supply shortage was highest at 4981 MU in 2012-13 (**Figure 10.1(b)**).

Figure 10.1(a): Power Supply & Demand Gap (in MW)

Source: KPTCL

Figure 10.1(b): Energy Supply and Demand Gap

Source: KPTCL

10.1.6 Vigilance efforts

The vigilance efforts by various authorities of the ESCOMs have contributed to the reduction in AT&C losses (**Table 10.5**).

Table 10.5: Vigilance efforts by various authorities of the ESCOMs in reducing theft and pilferages.

Year	No of Installations Inspected	No. of Cases Detected	Penalty Imposed (Rs. in Crs)
2014-15	4,08,955	93,412	157.62
2015-16	2,84,771	67,863	144.23
2016-17	5,20,387	82,223	164.04
2017-18	6,84,875	80,090	197.49
2018-19	5,83,303	64,348	165.76
2019-20	6,23,036	65,154	926.75
2020-21	243746	14546	63.019
2021-22	263915	12090	57.537
2022-23 (Upto Nov-2022)	623043	64009	141.42

Source: ESCOMs

The ESCOMs supply electricity to various category of consumers at different price slabs. Details of revenue realized from the different categories of consumers are given in **Table 10.6**. This shows that during the year 2021-22 nearly 76.43% of the ESCOMs revenue arises from LT category consumers even though they account for about 70.37% of the electricity consumption. The HT industrial & commercial sector while accounting for only 18.25% of the electricity sales contributes 24.52% of the total revenue earned in 2021-22. Electricity supplied to HT Agriculture including lift irrigation fetches the lowest average revenue of Rs. 4.33/kWh where as the LT commercial category provides highest revenue realisation of Rs.10.92/kWh. Other than temporary installations, commercial LT consumers and HT industrial and commercial consumers pay higher prices for electricity consumed.

Table 10.6: Electricity sales and revenue realization by categories of consumers

Category	Description	Sales (MU)		Revenue (Rs. Crores)		Average revenue realization (Rs./ kWh)*	
		2021-22	2022-23 (Upto Nov-22)	2021-22	2022-23 (Upto Nov-22)	2021-22	2022-23 (Upto Nov-22)
LT1	BJ/KJ	916.51	590.75	601.56	510.89	6.56	8.65
LT2	AEH	13,080.11	9,442.42	9,697.37	7,647.93	7.41	8.10
LT3	Commercial	3,429.67	2,729.67	3,746.65	3,115.41	10.92	11.41
LT4	Irrigation Pump sets	21,159.55	11,826.57	12,253.42	7,396.36	5.79	6.25

Category	Description	Sales (MU)		Revenue (Rs. Crores)		Average revenue realization (Rs./kWh)*	
		2021-22	2022-23 (Upto Nov-22)	2021-22	2022-23 (Upto Nov-22)	2021-22	2022-23 (Upto Nov-22)
LT5	Industries	2,032.45	1,469.33	1,862.79	1,453.97	9.17	9.90
LT6	Street lights and water supply	3,710.99	2,612.32	2,929.50	2,222.17	7.89	8.51
LT7	Temporary Installations	320.12	251.52	729.54	598.58	22.78	23.80
Total LT		44649.40	28,922.58	31,820.83	22,945.31	7.13	7.93
HT1	Water supply installations	1,931.53	1,323.50	1,199.48	882.50	6.21	6.67
HT2	HT Industrial & Commercial	10,658.78	8,576.93	11,088.05	9,046.69	10.40	10.55
HT3	Lift Irrigation	872.76	411.93	377.74	262.09	4.33	6.36
HT4	HT Residential	142.61	105.45	113.22	88.20	7.94	8.36
HT5	HT Temporary	157.44	170.74	242.55	267.46	15.41	15.66
Total HT		13,763.12	10,588.55	13,021.04	10,546.94	9.46	9.96
Others / Misc. Income		5.46	-	378.23	62.53	-	-
Grand Total		58417.98	39511.13	45,220.10	33,554.78	7.74	8.49

Details of energy sales, average tariff and average cost of power supplied by ESCOMs are given in **Table 10.7**.

Table 10.7: Energy sales, average tariff and average cost of power supplied by ESCOMs.

ESCOMS	Energy sales(MU)		Average tariff (Rs./kWh)		Average cost (Rs./kWh)	
	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
	(Actuals)	(KERC approved)	(Actuals)	(KERC approved)	(Actuals)	(KERC approved)
BESCOM	26684.73	29396.63	7.85	8.70	8.42	8.70
MESCOM	5168.52	5387.54	7.65	8.13	7.94	8.13

ESCOMS	Energy sales(MU)		Average tariff (Rs./kWh)		Average cost (Rs./kWh)	
	2021-22	2022-23	2021-22	2022-23	2021-22	2022-23
	(Actuals)	(KERC approved)	(Actuals)	(KERC approved)	(Actuals)	(KERC approved)
HESCOM	11761.98	12082.25	7.46	8.31	8.00	8.31
GESCOM	7827.30	7921.91	7.51	8.11	7.74	8.11
CESC	6684.20	6911.06	7.29	8.11	7.61	8.11
Hukkeri	291.27	266.50	6.32	6.51	6.26	6.51
Total	58418.00	61965.89	7.64	8.42	8.11	8.42

Source: ESCOMs.

The overall cost of supply is more than the realisation and there is revenue deficit which regulators normally considers in the Annual Performance Review.

10.1.7 Subsidy in Power Sector

There are a total number of 29,19,139 Bhagya Jyothi/Kutira Jyothi(BJ / KJ) connections and 33,25,328 irrigation pump sets upto 10 HP in the State as of November-2022. The power supply to IP sets (Upto 10 HP) has been made free with effect from 01.08.2008. Whereas the BJ/KJ beneficiaries have been enjoying free power since a very long time. From 2017-18, the free power supply to BJ/KJ has been enhanced from 18 units to 40 units per installations per month. The entire cost of supply of free power to agricultural sector (IP set upto 10 HP connected load) & BJ/KJ connections (consumption up to 40 units per month) has been made good by the State Government through subsidy. The subsidy provided by the Government during the last Previous years and in 2022-23 (Up to November – 2022) is provided in **Table 10.8**.

Table 10.8: Subsidy Released by the State Government

Year	Subsidy released (Rs. in Crs)	Remarks
2019-20	11,245.00	
2020-21	11,250.00	
2021-22	16,944.93	Includes previous subsidy arrears of Rs.5,500.00 Crs&Covid relief subsidy of Rs.68.93 Crs.
2022-23 (Upto Nov-22)	11,547.41	Includes FAC subsidy Rs.100.02 Crs& Covid relief Subsidy of Rs.92.59 Crs.

Source: Energy Dept.

Demand Side Management (DSM)

Energy Efficiency and Energy Conservation endeavour is critical for meeting India's Nationally Determined Contribution in the emission intensity of its GDP by 33%-35%

by 2030 from 2005 level. The Government of Karnataka has implemented several programmes to conserve energy as part of its DSM initiatives. Some of the important programmes are:

- ❑ Time of Day Tariff Metering is mandatory for industrial consumers and especially for HT consumers having sanction load of 500 KVA and above.
- ❑ Installing Energy efficient street lighting systems and Electronic Time Switches for street light installations for switching “ON” and “OFF”.
- ❑ Segregating agricultural loads from the existing 11kV feeders through Niranthara Jyothi and DEENA DAYAL UPADHYAYA GRAM JYOTHI YOJANA schemes to provide 24X7 uninterrupted power supply to non-agricultural loads in rural areas.
- ❑ Adoption of High Voltage Distribution System (HVDS) for agricultural loads in rural areas.
- ❑ Encouraging domestic consumers to use solar water heaters.
- ❑ Mandatory use of solar water heating systems for all residential buildings with a built up area of 600Sq. Feet and above falling within the limits of Municipalities/ Corporations and Bangaluru Development Authority, etc.
- ❑ Mandatory use of LED in Government buildings/Aided institutions/ Boards / Corporations.
- ❑ Mandatory uses of star rated energy efficient irrigation pump sets conforming to standards prescribed by the Bureau of Energy Efficiency.
- ❑ Promotion of energy efficient building designs.
- ❑ Adoption of Bachat Lamp Yojana launched by Bureau of Energy Efficiency (BEE), Government of India.
- ❑ Implementation of Solar Rooftop programme.
- ❑ Vidhyuth Jagruthi Yojana, an awareness programme on DSM activities for students.
- ❑ Surya Raitha Scheme, a pilot project for arranging power supply to IP sets through solar under net-metering concept for IP sets.
- ❑ Distribution of LED bulbs, LED Tube lights and Energy Efficient pump sets under Hosabelaku through EESL as part of UJALA Scheme.

Investment in Power Sector: (Planned by KPCL, KPTCL & ESCOMs during 2021-22)

The Plan Outlay and expenditure incurred during the last Five years and during 2022-23 (upto November – 2022) are given at **Table 10.9** and investment in power development since 2016-17.

Table: 10.9 : Investment in Power Sector**(Rs. in Crore)**

Year	IEBR				Capital Outlay / Expenditure for Power Projects(IR & EQUITY)		Total Outlay	
	KPCL		KPTCL & ESCOMs		Plan Outlay	Expr.	Plan Outlay	Expr.
	Plan Outlay	Expr.	Plan Outlay	Expr.				
2017-18	1822.00	968.14	2000.00	2005.14	3555.25	3555.25	7377.25	6528.53
2018-19	1404.00	1001.66	2000.00	3711.64	3129.00	3129.00	6533.00	7842.30
2019-20	1916.00	288.06	3208.00	2406.04	2181.31	2181.31	7305.31	4875.41
2020-21	2345.82	297.68	2000.00	1342.67	1640.35	1640.35	5986.17	4083.32
2021-22	1859.28	362.59	2000.00	4226.29	3426.97	3426.97	8448.16	8015.85
2022-23 (Upto Nov-22)	1954.00	225.94	3521.83	2263.08	2920.26	2920.26	8396.09	5409.28

Source: Details of Provision for Plan Schemes, Finance Department, GoK.

10.1.8 Rural Electrification

Towards meeting the targets stipulated by the National Electricity Policy (NEP), the State Government has planned initiatives for energisation of Villages, Hamlets, Harijan Bastis and Thandas. All the villages of Karnataka have been electrified. The ESCOMs have planned to energise hamlets and thandas in a phased manner. The details of electrification status in hamlets, Harijan bastis, thandas and IP sets during the last 6 years and in the current financial year are provided in **Table 10.10** and cumulative progress of Energisation since 2016-2020 is also given.

Table 10.10: Progress in Rural Electrification

Number of Hamlets, harijan Bastis & Thandas Energised during 2020-21 & 2021-22 are 11 and 9 respectively, Hamlets harijan bastis & thandas Energised upto November-22 is 02 under SCSP and TSP Capital works.

Year	Irrigation Pump sets Existing (in lakhs)	Hamlets/Harijan Bastis Thandas Electrified (No.s)
2016-17	25.06	3041
2017-18	26.30	4485
2018-19	29.68	19
2019-20	30.28	39
2020-21	31.65	11
2021-22	32.57	09
2022-23 (Upto Nov-2022)	33.25	02

Source: Energy Department

10.1.9 Karnataka Renewable Energy Development Limited (KREDL).

KREDL is the nodal agency for the development of renewable energy sources in Karnataka. To harness green and clean renewable energy sources in the State for environmental benefits and energy security and to initiate energy conservation & efficiency measures in all the sectors for sustainable development, the Government of Karnataka notified a policy on renewable energy (for the period 2009-14) on 19.01.2010 and Solar Policy 2014-21 on 22.05.2014 and Karnataka Renewable Energy Policy 2022-27 on 06.05.2022.

Karnataka Renewable Energy Policy 2022-27

State notified Karnataka Renewable Energy Policy 2022-27 to facilitate Government of India in meeting the RE target of 500 GW by 2030. KREDL is the nodal agency which envisages private sector investment for renewable energy development in the State. The capacity addition in private sector under renewable energy during 2021-22 was 383.09 MW and it is 361.84 MW during 2022-23 (upto Nov – 22)(as shown in **Table 10.11**).

Table 10.11: Capacity additions under Renewable Energy (in MW)

Sources	Capacity addition during		
	2020-21	2021-22	2022-23 (Upto Nov-2022)
Wind Power	148	181.80	74.25
Solar	88.83	201.28	287.59
Total	236.83	383.08	361.84

Source: KREDL

The cumulative progress in installed capacity additions in the renewable energy sector in the State as on 30.11.2022 is shown in **Table 10.12**. Solar energy (including Solar Roof Top) accounts for major share in the installed capacity.

Table 10.12: Cumulative Progress in Renewable Energy (in MW) as on 30.11.2022

Sources	Potential Available	Allotted Capacity	Installed Capacity
Wind Power	124139	24974.87	5223.39
Small/Mini Hydro	3100	3010.25	903.46
Co-Generation	2000	2212.65	1731.16
Solar (including solar roof top)	24700	14445.83	7877.89
Hybrid	Wind	-	29.70
	Solar	-	20.30
Biomass	1000	395.13	139.03
Waste to Energy	135	51	0
Total	155074	45139.73	15874.93

Source: KREDL & Energy Department

10.1.10 New Initiatives

Initiative taken up in 2022-23.

- ❑ Providing solar water pumps to beneficiaries under SCSP and TSP schemes through KREDL.
- ❑ Upgradation of Distribution Automation System in other Corporation areas.
- ❑ The HVDS implemented on pilot basis will be continued in other subdivision of ESCOMs after detailed study of the scheme.
- ❑ Smart Grid and Smart Meters scheme will be implemented on pilot basis.
- ❑ Implementation of Green Energy Corridor scheme with the assistance of KPTCL and MNRE.
- ❑ Augmenting Transmission Capacity to future growth and evacuation.
- ❑ As per Budget Announcement KPCL is implementing 11.5 MW capacity Waste to Energy project at Bidadi, Ramanagara District in co-ordination with BBMP.
- ❑ As per budget announcement BESCO is in the process of implementing 1190 No's Charging Stations under PPP mode, throughout the State.

Ujwal Discom Assurance Yojana (UDAY) Scheme: Ujwal Discom Assurance Yojana (UDAY), a Scheme for Financial Turnaround of Power Distribution Companies (DISCOMs), has been approved by the Government of India with an objective to improve the operation and financial efficiency of the State DISCOMs. The Karnataka State stands 1st place in the ranking as per the UDAY Dashboard. BESCO stands in the 1st place, HESCO stands in 2nd place, GESCOM stands in 3rd place, MESCOM stands in the 4th place & CESC stands in the 5th place in the ranking as per the performance parameter on UDAY Dashboard.

Centrally Sponsored Scheme:

1. Deendayal Upadhyaya Gram Jyothi Yojana (DDUGJY)

ESCOMs wise sanction details are as follows **(Table: 10.13)**.

Table 10.13: Projects under DDUGJY

(Rs. in Crs)

SL. No.	Item	Cost approved by Monitoring Committee
1	Electrification of un-electrified villages	23.17
2	System Strengthening and Access to Rural Households	492.81
3	Metering	444.96
4	SAGY	55.09
5	Feeder Separation	729.76
Grand Total		1745.79
PMA Charges @ 0.5%		8.73
Total Project Cost		1754.52

Source: Energy Department

The works under DDUGJY was completed on December-2020.

2. Integrated Power Development Scheme (IPDS)

Phase-1:

Table 10.14: Sanction Details for Projects under IPDS

(Rs. In Crs)

Sl. No.	Name of the Company	No. of towns	DPR Cost
1	BESCOM	45	459.45
2	CESC	33	179.06
3	GESCOM	42	184.33
4	MESCOM	30	168.44
5	HESCOM	73	206.37
Total		223	1197.65

The Works under IPDS phase-1 was completed on Dec-2019.

Phase 2:

Table 10.15: Sanction Details under IPDS Phase 2

(Rs. in Crs)

Sl No	Name of the Company	No of Towns	Total Project cost
DC-DRC (all ESCOMs)			26.67
1	BESCOM	20	7.42
2	CESC	21	6.84
3	GESCOM	18	4.78
4	MESCOM	44	10.27
5	HESCOM	21	6.30
TOTAL		124	62.28

Pradhan Mantri Sahaj Bijli Har Ghar Yojana (Saubhagya)

Table 10.16: ESCOM wise sanction details

(Rs. Crores)

Sl No	Name of the Company	RHH	Addl infra	Total Project Cost (RHH+ Addl infra)
1	CESC	1.86	14.75	16.61
2	MESCOM	3.51	12.17	15.68
3	HESCOM	40.55	53.14	93.69
4	GESCOM	27.65	46.07	73.72
5	HRECSL	5.09	4.5	9.59
Total		78.66	130.63	209.29

Table 10.17: Progress of Energisation of IP Sets in Karnataka**(Lakhs)**

End of Year	Pump sets energised (cumulative)
2016-17	25.06
2017-18	26.30
2018-19	29.68
2019-20	30.28
2020-21	31.55
2021-22	32.57
2022-23 (Upto Nov-22)	33.25

Source: ESCOMs accounts for 2021-22.

State Government Programme :

BELAKU: At present 2,39,570 number of un-electrified households have been identified and the estimated cost of electrification is about Rs. 260.34 crore. A total of 2,23,726 households have been electrified as on Nov-2022.

Table 10.18: Details of Electrified households under BELAKU

Sl No	Name of the Company	No of Unelectrified HouseHolds	Estimated Cost in Crs.	No of Households Electrified
1	BESCOM	61897	37.557	61673
2	CESC	19528	16.99	19253
3	MESCOM	28362	68.94	24494
4	HESCOM	75188	67.67	70448
5	GESCOM	49260	65.67	47539
6	HRECSL	5335	3.51	319
Total		239570	260.34	223726

Source: Energy Department

ISSUES/CHALLENGES

Subsidy burden: The Number of IP sets (Up to 10 HP) & BJ/KJ installations are increasing over the years resulting in increased consumption. The monthly consumption limit per installation of BJ/KJ has been increased from 18 to 40 units per installations and overall increase in consumption of IP (Up to 10 HP)& BJ/KJ, the subsidy burden has been increasing. Due to inflationary tendency the cost of supply is increasing over the years. The tariff is getting increased due to increase in input cost of Generation, Transmission and Distribution. Consequently subsidy burden is also increasing.

Cost of Supply: Due to increased demand for power in the state, the thermal share is increased adding to the cost of supply. The operational cost is also getting increased. The

revenue realisation from sales is not matching with the overall cost of supply and there is gap or deficit in revenue every year. In order to bridge this revenue deficit temporarily ESCOMs are resorting to short term borrowings. The State regulators are considering the revenue deficit of the previous years during the Annual Performance Review and trying to bridge the revenue deficit as far as possible. The approved average cost of supply for 2020-21 is Rs.7.23 per unit. The provisional actual average cost of supply of 2021-22 is Rs.7.64 per unit.

Short term power purchase: Due to increased capacity addition to the generation within the State by KPCL as well as through renewable sources, need based import is considered in the recent past & the same trend is expected during the current financial year.

Other challenges

- ❑ Restructuring of management within KPCL to provide greater autonomy to major generating stations.
- ❑ Monitor production from captive mines supplying coal to State-owned plants and enforce penalties for non-performance.
- ❑ Plan for more gas-based power stations to make use of the gas pipeline availability.
- ❑ Address the weak financial situation of KPCL by settling unpaid arrears.
- ❑ Utilize captive and IPP capacity in the State by offering reasonable tariffs.
- ❑ Pursue power projects in Cauvery basin in discussion with Government of Tamilnadu
- ❑ Pursue discussions with State of Goa to make progress with Mahadayi hydro project.
- ❑ Mandate ESCOMs to adhere to minimum levels of evacuation.
- ❑ Stricter enforcement of solar RPO
- ❑ Site future PV plants in areas with alternate water supply
- ❑ Conduct regular knowledge sharing and technical training sessions for engineers/ technical staff in State.
- ❑ Policy to incentivize re-powering of existing wind sites.
- ❑ Investment-grade zoning of waste lands to enable higher wind capacity addition
- ❑ High energy intensity on a limited number of sites makes industrial energy efficiency a high priority.
- ❑ Consider the optimum organization and institutional framework for industrial energy efficiency within government.
- ❑ Understand specific barriers to improved energy efficiency in specific sectors.
- ❑ Establish appropriate top-down and bottom-up indicators of success.
- ❑ Develop policies that combine information and capacity building, institutional, regulatory and legal drivers, and fiscal and financial drivers.

10.1.11 Outcome / Achievements

- ❑ Niranthara Jyothi Yojane is a major project that aims to segregate the rural area loads into agricultural and non-agricultural loads so as to provide 24 hours of quality power supply to rural areas and assured hours of power supply to the irrigation pump sets
- ❑ As on July 2019, all the proposed NJY works are completed. 2288 Niranthara Jyothi feeder works (59 feeders in Pilot, 884 feeders in phase 1 and 839 feeders in phase 2 and 506 feeders in Phase 3) are completed and have been commissioned and As on November - 2020, 1723 Niranthara Jyothi feeder works (884 feeders in phase 1 and 839 feeders in phase 2) are completed and have been commissioned.
- ❑ The State Government has brought out its Solar Policy for 2014-2021 for giving impetus to exploitation of solar energy. The State Govt is able to harness renewable energy sources and save natural resources like coal.
- ❑ Some of the energy conservation programs like demand side management (DSM) and smart grid pilot project have resulted in saving energy.
- ❑ The solar park spread across 12,718 acres has an installed capacity of 2,050 MW and has produced at an average of 377.43 million units of power per month in the year 2020-21.
- ❑ Specific challenges and the future outlook of the department.
- ❑ Optimum utilisation of natural resources under renewable energy sector.
- ❑ Generation capacity addition to meet the growing demand for achieving self-sufficiency.
- ❑ Reduction of Transmission & Distribution Loss.
- ❑ Reduction of Aggregate Technical & Commercial Loss.
- ❑ Making Power Supply Consumer friendly.
- ❑ Reduction of Electrical Accidents.

10.1.12 Subsidy given to Ganga Kalyana Yojana

The scheme is a fully subsidized scheme, bore wells, pumps and electrification are provided to minorities and small farmers living in rural areas. For individual Bore well project, the government has allocated Rs.3.75 lakhs for 1. Bangalore Rural 2. Kolar 3. Chikkaballapur 4. Ramanagara 5. Tumkur districts and Rs.2.25 lakhs for other districts.

The Government introduces a variety of projects to supply irrigation services. These schemes allow the drilling of open wells and borewells to provide irrigation infrastructure. The Karnataka Ganga Kalyana Scheme was also newly introduced by the Karnataka Government. The Government will dig open wells with pumps or bore wells through this programme.

Normal IP sets – Solar IP sets

Centrally-sponsored PM KUSUM-B (Pradhan Mantri Kisan Urja Suraksha Evam Utthaan Mahabhiyan-B) scheme under which solar-powered irrigation pump sets will be provided

to farmers. 10,000 farmers of the State will get the benefit of this scheme which will free them from depending on the grid-connected power for agricultural operations. The total cost of the project would be around Rs. 30,723 crore, the State would provide Rs. 10,697 crore while the remaining cost would be borne by the Centre. The beneficiaries under the scheme would be chosen through online mode by the Karnataka Renewable Energy Development Corporation Ltd. (KPCL).

Tenders are invited in the month of MAY 2022 for the pending 44,134 Nos. IP set applications as at the end of March-2022 for creating infrastructure on seniority basis for those who have paid Rs.10,000/- and other required deposits. The estimated cost of the work is Rs.886.27 Crores.

10.1.13 WAY FORWARD

The strategies are framed in various policies- Karnataka State Renewable Energy Policy, State Solar Policy State Bio-fuel policy for Affordable and Clean Energy for all.

- ❑ Karnataka Power Transmission Corporation Limited (KPTCL) is identified as the nodal agency to plan and monitor the SDG 7. There is need to prepare periodic plans for all ESCOMs to reinforce their distribution infrastructure in a coordinated manner as grid modernization and up-rating of the distribution network for the absorption of power will involve significant capital infusion.
- ❑ There is need to rectify the balance sheet of state power utilities by rate-design reforms, plugging revenue leakage, squaring cumulative losses, and issuance of bonds. Additionally, quality-rated distribution transformers are required to reduce the length to ensure optimum efficiency.
- ❑ There is need to promote Utility business model to transform from 'generation sales' to 'mediator for sales' for sustenance in the long-term. This would keep the consumers connected to the distribution networks to transact their surplus energy.
- ❑ Timely formulation and implementation of action plans.
- ❑ Re-assessment of cross-subsidies by cost-effective tariffs and regulatory innovations as electricity to evolve from a public utility model to a product/commodity model.
- ❑ Need for application of IT solutions such as SCADA to augment collection and collation of data and reduce manual interventions to ensure maximum uninterrupted power supply
- ❑ Change management programmes of local power distribution as well as reactivation of the franchisee system to be promoted by involving local youths under Skill India Mission
- ❑ Need to provide cooking gas/fuel at a reasonable cost to the sections not covered under the UJJWALA scheme in close coordination with oil companies through incentives like tax concessions, as appropriate under state scheme.
- ❑ There is need to regulate farm power by limiting the number of wells per unit area and checking misuse of subsidy. Also, going forward there is need for increasing testing labs for solar panels as well as innovation labs such as YES SCALE (agrotech, cleantech and smart cities) as alternate source of energy.

- ❑ The companies to promote initiatives like internet-of-things, block chain, machine learning, mobile intelligence, mini-grids and micro grids in future.
- ❑ To ensure sustainable uptake of these technological innovations, there is a need for coherence between institutions and technological processes to ensure satisfactory functioning of electricity infrastructure.
- ❑ Network strengthening and using efficient irrigation pumpsets

10.2 ROADS, TRANSPORT, INFRASTRUCTURE AND COMMUNICATIONS

10.2.1 Roads

The State's Road network consists of National Highways (NH), State Highways (SH), Major District Roads(MDR), Municipal roads and other roads including village connectivity roads. The road development works in the State are carried out by multiple departments/agencies, which include Public Works Department (PWD) of the State Government, local Governments such as Zilla Panchayat and its wings & in urban areas, the City Corporations, City Municipal Corporations (CMC) etc. the roads are maintained by the respective agencies. The details of road length in the state are given in the **Table 10.19**.

In the State, the average length of the PWD roads (viz; NH, SH & MDR) per 100 sqkm area is 47.73 km. Among the districts, Shivamogga(46.89), Ballari(43.01) Chickballapura (40.41) Bidar (41.19), Yadgiri (41.08), Chickmagalur (42.91), Uttara Kannada (45.86), Kodagu (43.55), Raichur (36.68), Chitradurga (39.31), Vijayapura (38.19), Kalburgi (35.06), Chamarajanagara (31.71) are below the State average.

The average length of the roads (viz; NH, SH, MDR and rural roads) per 100 sqkm of geographical area of the state is 150 kms. The road lengths in the districts namely, Chamarajanagara(106), Koppala(109), Ballari(109), Yadgir (112), Vijayanagar (116), Vijayapura (117), Raichur (122), Gadag (123), Bidar (127), Ramanagara (130), Haveri (135), Kalburgi (136), Bagalkot (137), Belagavi(142), Bengaluru(u)(143), Kodagu(146), Chikkaballapura(146) are less than the State average for which special emphasis is to be provided to bring them on par with the state average.

An amount of Rs 10065.92 crores is allocated to the Public works department for 2022-23 of which an amount of Rs. 6717.96 crores is released upto 20th Jan 2023. The expenditure incurred is Rs. 6379.56 crores. Out of the total allocation, the productive allocation is Rs 9469.22 crores of which the expenditure incurred is Rs. 5982.14 crores. Details of Scheme wise progress of Public works Department as on January2023 (avalokana) given in **Appendix 10.1**.

Table 10.19: The Road lengths in Karnataka

(in Kms)

Category of Road	Year	
	2021-22	2022-23
National Highways	7652	7652*
State Highways	28985	27880*
Major District Roads	55474	56115*

Category of Road	Year	
	2021-22	2022-23
Municipal Roads	43964.01	43964.01**
Rural Roads	194438.02	197282.83***
All Roads	330513.03	332893.84

Source:* Information Provided from EIC, PRAMC office(as on March 2022),

**Director, Directorate of Municipal Administration,(as on March-2021)

*** RD &PR Department(as on 2019-20).

Road Network: As per the State wise road network, the Karnataka State is having a total road length of 3,58,300 km. (all roads) which is 5th highest road network among the States and UT of India besides the State of Maharashtra, Uttar Pradesh, Assam & Madhya Pradesh.

Under SHDP-IV, approval has been accorded for implementation of 7800 km road development in 3 stages at an estimated amount of Rs. 10,000 crore.

Package Bridges : Construction of 247 bridges at an estimated amount of Rs. 1812 crore has been taken up in 16 packages on Turnkey basis across the State of Karnataka. Bridge proper in respect of 159 bridges completed and balance are under various stages of construction. The Cumulative Financial progress achieved till December-22 is Rs.1311 crore.

Roads in and around Bengaluru are being taken up at an amount of Rs.2095 crore. It is planned to develop 155 km of road including construction of ROB/RUB, Grade separators. This is under implementation in 10 packages and 78 km length of improvement has been completed to end of December-22.

Karnataka State Highways Improvement Project-III (KSHIP-III): KSHIP-III has taken up with ADB loan assistance of US \$346 million to develop the Core Road Network. All the 3 packages are under progress. As on Dec-22, 70 km in package-I, 114 km in package-II and 73 km in package-III have been completed.

Plan Outlay & Expenditure, PWD: From 2012-13 to 2020-21, an amount of Rs.74,740 crore has been spent for road development as against the total budget allocation Rs.78266 crore (includes IEPR, Capital and Revenue).

NABARD: RIDF-27 (2021-22) : During 2021-22, NABARD has communicated approval to take up 23 major and minor bridges amounting to Rs.14349 Lakh with a loan assistance of Rs.11479 Lakhs Administrative approval has been accorded and the works are under progress.

Rural Roads

The total length of rural roads as on 2019-20 in Karnataka is 197282.83 kms (Bituminous Surface 61777.81 Kms, Metal Surface 21925.02 Kms and Earthen / Gravel Surface 113580 Kms).

Rural Communications

Improvement of Rural roads and their maintenance is being taken up under Pradhan Manthri Gram Sadak Yojana (PMGSY), Namma Grama Namma Raste Yojane (NGNRY), Mukhya Manthri Grameena Rasthe Abhivruddhi Yojane (CMGSY) & RIDF schemes. An amount of Rs 443.96 crores is allocated to the Rural roads schemes for 2022-23 of which an amount of Rs. 219.86 crores is released upto 20th Jan 2023. The expenditure incurred is Rs. 266.50 crores. The entire allocation pertains to productive allocation. Details of scheme wise progress is given in **Table 10.20**.

Table 10.20: Scheme wise progress of Rural Roads, RDPR department as on January 2023 (AVALOKANA) (Rs in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Pradhan Mantri Grama Sadak Yojane-Road Maintenance	81.52	61.14	52.86
Namma Grama Namma Raste Scheme (NGNRY) and other Rural Road Schemes	120.00	90.00	94.57
Special Grants to Rural Roads (Mukhya Mantri Gramina Raste Abhivruddi Yojane)	242.44	68.72	119.07
Total	443.96	219.86	266.50

ISSUES & CHALLENGES AND OUTCOME

(a) Issues & Challenges

- ❑ The road network in the State shows disparity in inter-district connectivity of National Highways and State Highways. This disparity in connectivity needs to be set right based on Dr.Nanjudappa Report on redressal for Regional Imbalance. Accordingly, GO has been issued for upgradation of 9601 km State Highways and 15510 km Major District Roads during 2020-21.
- ❑ Rural Roads - Rural connectivity is a key component in the overall development of the state. Rapid development of roads can have a multiplier effect on the overall growth of backward regions. Investment in roads has one of the largest impacts on poverty alleviation and increase in total factor productivity.
- ❑ About 23% of State Highways and 79% of Major District Roads carriageway width are single Lane. To ease the traffic congestion most of the State Highways and some of the Major District Roads needs to be upgraded to two lane width based on the vehicle density (Passenger Car Unit). (Widening of SHs are being taken up through KRDC and KSHIP on Core Road Network concept)
- ❑ The vehicular population in the State has risen to about 23 lakh from March-2021 to December-2022. As on December-22, there are 295 lakh registered vehicles are in the State. To accommodate growing population of vehicles, roads have to be widened on National Highways and State Highways. At present, only 29% of National Highways and 2.4% of State Highways are having 4 lane carriageway widths.
- ❑ The Government of India has take up improvement of National highways in the State through National Highway Authority of India. NHAI is implementing development

of National Highways into 4 lane/ 6 lane. At present development of 1885 km NH is under progress at an amount of Rs.32,793 crore.

The Planning and Road Asset Management Centre (PRAMC): This Centre (PRAMC) is established to strengthen the planning, programming and other mandated functions of the Department.

Core Road Network (CRN) : As per Government length of 35853 km (7589 km of National Highways, 18661 km of State Highways and 9603 km of Major District Roads) has been identified for development to implement CRN in the State.

Rectification of Black Spots: "Karnataka Road Safety Policy-2015". The Road safety policy aims at the reduction of road accidents by 25% and fatalities by 30% by the year 2020. Till now 449 Black Spots have been rectified in the State. Black spots on highways need better monitoring most of accidents happened on National and State highways and Speeding is a major cause accounting for these accidents.

- ❑ Enforcing key road safety rules and proper planning of road networks & pedestrian tracks, Vehicular traction system.
- ❑ IEC activities for creating awareness on road safety
- ❑ Driving tracks & providing visible, crash, protective, smart vehicles.
- ❑ Setting & enforcing mandatory crash helmet use & Delivering post-crash care
- ❑ Encouraging research on road safety measures.

Collaborating with Public works and traffic control department: To bring in required modifications for ensuring a smooth flow of traffic and Promoting awareness of traffic rules Among the youth in schools and colleges.

Upgradation of Roads: In order to strengthen the road network of the State, 226 Major District Roads of length 9601 km have been upgraded as State Highways. In the same way 1329 village roads of length 15510.68 km have been upgraded as Major District Roads. While upgrading the said roads Dr.D.M.Nanjunadappa's Committee report and length of PWD roads per 100 sq. km. area of districts have been kept in view.

10.2.2 TRANSPORT

Transport Department Consists of Transport Commissionerate and four Corporation. An amount of Rs 3568.56 crores is allocated to the Transport department for 2022-23 of which an amount of Rs. 2387.08 crores is released upto 20th Jan 2023. The expenditure incurred is Rs. 1319.20 crores. Out of the total allocation, the productive allocation is Rs 3435.58 crores of which the expenditure incurred is Rs. 1218.66 crores. Details of Scheme wise progress of Transport Department as on January 2023 (avalokana) given in **Appendix 10.2.**

I. Karnataka State Road Transport Corporation

KSRTC with its Corporate office at Bangalore, has in its jurisdiction seventeen southern districts of Karnataka and provides bus service to 19076 villages out of 21670 villages, the percentage service provided being 88%. The percentage fleet utilization stood at 63.7%

.As on 30.11.2022, 7338 schedules were operated utilizing 8128 vehicles, for the cumulative period the operation was average. of 26.20 lakh kms/day earning gross revenue of Rs.1178.09 lakh and carrying 24.72 lakh commuters on an average daily with workforce of 35027 employees.

Thus KSRTC operated 6392.73 lakh effective kms. during the year 2022-23 (upto November-2022) as against 3626.32 lakh effective kms operated during the same period of previous year. The percentage fleet utilization has increased to 88.8 during the current year as against 53.6 in previous year. During the current year period KSRTC has not inducted any new bus and replaced 70 old vehicles which were not fit for operation. The percentage of vehicles scrapped to the total vehicles was 0.9. KSRTC has been fulfilling its social obligation by providing free/ concession passes to several sections of the society, namely, students, physically challenged, blind, freedom fighters, endosulfan victims, Arjuna awardees etc.

Financial Performance: During the year 2021-22, the Corporation incurred a loss of Rs.423.31 crore as against a loss of Rs.581.15 crore incurred during 2020-21. KSRTC has to pay 5.55% of traffic revenue as motor vehicle tax. The Government has given motor vehicle tax exemption for 2021-22. The detailed financial performance statistics of KSRTC, BMTC, NWKRTC and KKRTC is given in **Appendix 10.3**.

Smoke Emission Checks: During 2021-22, totally 82,415 vehicles were checked for smoke emission levels during the year under report and out of which 591 (0.72%) buses were found to be slightly above the prescribed norms. These buses were attended to and put back to operation.

Safety Measures: Collision Avoidance System (CAS) is being introduced in few premier service buses to avoid the accidents and Installation of FDSS (Fire detection and suppression system) in few premier service buses to control fire incidents.

Implementation of Accident Insurance scheme of Rs.1 crore to all Employees: For the first time in the history of STUs of the country, an accident insurance scheme of Rs.1crore has been implemented for KSRTC employees. Employees of the Corporation who die in an accident or suffer permanent/temporary disability will get Rs.50 lakh, a non-premium accident indemnity insurance and Rs.50 lakh with a with a minimum premium payment.

Achievement: KSRTC has been a key driver of economic growth and development of the state in the services sector. The commendable service of KSRTC has been recognised throughout the nation and outside too. And this has fetched KSRTC several national and international awards apart from earning a place in the Limca Book of Records for being the most award winning State Transport Corporation in the country.

ISSUES AND CHALLENGES FACED AND WAY FORWARD

- ❑ Viability gap funding
- ❑ Government funding for Transport Infrastructure and rolling stock.

Exemption to STU buses and other vehicles of STUs from payment of User fee at Tolls

- ❑ Concession in Diesel rates to STUs and exemption in Taxes

- ❑ Strict action against All India Tourist Permit holders who operate as Stage Carriages
- ❑ Measures to promote road Safety, traffic management and post-accident care through setting up of the National Road Safety and Traffic Management Board (NRS&TMB)
- ❑ Government to set up an Independent Road Transport Regulator at State level with view of the liberalisation and deregulation across various sectors of Indian economy.
- ❑ M.V.Tax at the rate of 5.55% on Traffic Revenue is paid to State Government presently. The STUs may be exempted from payment of MV Tax.
- ❑ STUs are going in for Electric buses under FAME-II (Faster Adoption and Manufacturing of Electric Vehicles) Scheme of Government of India. At least, for half of the Contract period, Viability Gap Funding (VGF) be provided by Government of India in order to boost E-Mobility in Public Transport System.
- ❑ A uniform solution to all the STUs be provided by ASRTU and financial support from MoRTH, Government of India for retro fitment of old buses be extended to STUs.
- ❑ Implementation of Intelligent transportation system (ITS) which is the application of sensing, analysis, control and communications technologies to ground transportation in order to improve safety, mobility and efficiency.

Best Practices adopted in KSRTC

- ❑ **Zero emission and clean fuel vehicles**
 - ▶ KSRTC will be operating 50 e-buses on GCC model on intercity routes within Karnataka in 2022-23. The first e-bus “EV POWER PLUS” has already started operation on trial basis on Bangalore-Mysore route.
 - ▶ Prakruthi- Green Squad for a Clean Environment: KSRTC has introduced mobile smoke emission and noise level checking service called “PRAKRUTHI”, to regulate the smoke checking conducted at depots and division level to maintain healthy fleet and clean environment.
- ❑ **Cargo/Parcel Transport Business**
 - ▶ **Namma Cargo- Parcel Services System:** In order to maximize the revenue of the corporation “Parcel and Lite parcel” sources transported from one place to another in our buses. The Business facilitator is selected through tender and the counters are located at 90 bus stations. This service is called Namma Cargo.

II. Bengaluru Metropolitan Transport Corporation

The Corporation has operated 5576 Schedules by utilizing 6899 vehicles, it has operated average schedules of 5409.2 and covers daily 10.24 lakhs kms. and earns average revenue of Rs.426 lakh Traffic revenue by carrying 28.56 lakh passengers daily. The workforce of the Corporation is 29,603. During the period it has inducted 215 Electric vehicles (private) which are operating on GCC model and scrapped 246 old vehicles. The percentage fleet utilization stood at 60.4%.

Financial Performance: During the year 2022-23 (April 22 to November 22) the Corporation has operated 24.04 crore effective kms, earned gross revenue of Rs.1429.08 crores

(including Rs.251.23 crores financial assistance released by Government of Karnataka under various Head of Accounts) and incurred an expenditure of Rs.1734.20 crore and sustained a loss of Rs.305.12 crore.

Achievements & Programmes of 2022-23

- ❑ For convenience of public commuters, BMTC has started operating 9 meter length 90 Non A/C Electric Metro Feeder buses on 27.12.2021.
- ❑ During the year 2022-23, under FAME-II Scheme of Central Government Department of Heavy Industries Rs.165.00 Crores and Rs.100.00 Crores from the State Government, totalling to Rs.265.00 Crores subsidy, 12 meter long 300 non-air-conditioned electric buses on GCC model are being operated by M/s. Switch.
- ❑ The Corporation has inducted 565 Non AC BS-VI Leyland buses under Debt Servicing Scheme of Government of Karnataka.
- ❑ New bus Depot at Devanahalli was inaugurated on 18-03-2022
- ❑ New electric bus depot at Bidadi has started functioning on trial basis from 12-12-2022.
- ❑ The Corporation has given orders for procurement of 921 Tata Electric Non AC vehicles of 12 meter length on GCC Model with the financial assistance of Rs.359.92 crore from Central Government.
- ❑ During the year 2022-23, the government has approved the procurement of 840 BS-VI vehicles at a cost of Rs 336.00 crore.
- ❑ BMTC has entered into MoU with Sri Jayadeva Institute of Cardiology for thorough medical checkup and 10 types of Cardiac tests for 10750 Drivers, Conductors, Mechanical and Administrative staff of above 45 years of age at an estimated cost of Rs.1.30 crores. 1600 staff have undergone medical checkup and medical checkup is under progress for remaining staff.
- ❑ The Corporation has planned to introduce Accidental Insurance Scheme for employees by entering into MoU with Canara Bank (Canara Bank Pay Roll Package). In this scheme, employee has to open a zero balance account and can utilize benefits provided by the Bank and if the employee expires due to accident, immediately his family will be entitled for Insurance Relief of Rs.30 lakhs. In the nation, this facility is first of its kind in the Road Transport Organizations' history.
- ❑ On account of Silver Jubilee celebrations of BMTC, accident-free drivers have been awarded Chief Minister's Gold and Silver Medals.
- ❑ In the budget of 2022-23, Rs.50 crore has been allocated under capital expenditure, and the said amount will be utilized for the works of providing basic facilities to passengers at Anjanapur, M.S Palya, Mandur, Devanahalli, Jayanagar, Indiranagar depots and construction of fire safety vehicle playing road at Koramangala TTMC, and officers' quarters at Jayanagar and electric bus depot at Attibele, construction of vehicle inspection centre at Jadigenahalli (continued work) and Others. These works are in progress.

- ❑ Under SDP, construction of vehicle fitness centre at Jadigenahally is under progress.
- ❑ During the year 2022-23, under SCSP and TSP Scheme, it is planned to provide dormitory for men & women candidates and take up track development at Vaddarahally Training Centre. For this, Government has provided a grant of Rs.5.20 crore.
- ❑ It is planned to impart Vehicle driving training and also provide driving license from Regional Transport Authority to 960 SC and ST candidates. 154 candidates have been already given driving training. Currently, training to 77 candidates is under progress.
- ❑ During 2022-23, free/concessional passes are issued to 223090 general category, 60190 SC and 8633 ST students totalling to 283280 students.
- ❑ During the year 2022-23(upto Nov), 272988 SahayaHastha passes have been issued to building construction labourers.
- ❑ From January-2022 under “VanitaSangathi” scheme, with co-operation of Labour department, BMTC concessional bus passes are issued to women workers who are working in large numbers in garment industries of Bengaluru. Totally 903 passes are issued till date.
- ❑ Government has allocated Rs.200 crore in 2022-23 budget under Financial Assistance/Relief. Till date Rs.150 core has been released and the same is utilized for clearance of outstanding liabilities.
- ❑ Government has provided a grant of Rs.420for payment of Gratuity & PF amount to retired/deceased employees and Diesel cost.
- ❑ Under Nirbhaya Scheme, development of mobile app with women safety feature, installation of CCTV in 5000 buses with arrangement of two cameras and one MNVR per bus. Automatic Vehicle Location System (AVLS) with panic button for 5000 buses. Bus Operations and Analytical Platform (BOAP). And 500 passenger information display panels at bus stations. Work order has been given to implement these programs together, at a cost of Rs.40.92 crore. Already CCTV cameras have been installed in 5000 buses and Passenger Information Display & Development of Mobile application is in final stages.
- ❑ Corporation has imparted self-defence training to its all women staff and 2415 women have already been trained. Corporation has distributed the training equipment such as Tracksuits, T-Shirts, Sports shoes & sacks, pepper spray, etc. Currently training is being given to 445 women staff.
- ❑ BMTC is issuing Free/Concessional passes to students and other categories of public.
- ❑ BMTC is enjoying the distinction of best performing mass transport system in India. It also has received laurels and appreciations from the central and state governments (BUS PRIORITY LANE” initiative implementation award, PCRA SAKSHAM-2022 State Award, SKOCH-2022 Semi Finalist Order of Merit - BMTC Self Defence Training to Women Employees etc.)

CHALLENGES:

- ❑ The Corporation has not revised the passenger fare from past six years. Due to this the traffic revenue realization of the Corporation is not at expected level.
- ❑ Due to the spread of Covid-19 pandemic in the year 2020-21 and 2021-22, the Corporation has still not recovered to its regular operations and hence corporation sustained a drop in traffic revenue realization of Rs.884.57 crores in the year 2021-22, when compared to 2019-20.
- ❑ The average diesel price which was Rs.55.80 per liter during the year 2017-18, has been increased to Rs 87.87 in the year 2022-23, due to this there is an approximate increase of Rs.0.81 crore per day and approximate Rs.297.45 crores per year in fuel cost. This is an additional financial burden to the Corporation.
- ❑ The average passengers carried in BMTC buses during the year 2015-16 was 51.00 lakh and the same is decreased to 33.10 lakh in 2019-20. Due to the spread of Covid-19 pandemic, the Passenger carried further decreased to 12.71 lakh per day in 2020-21. Presently, the average passengers carried has been increased to 28.5 lakh. Hence, it is still less than the normal operations which was in 2019-20.
- ❑ There is considerable decline in passengers travelling in BMTC buses due to Ola/Uber/ Other taxi services and this has resulted in Revenue loss to BMTC.
- ❑ Free/Concessional for General students and other passes has effected on revenue realization of the Corporation.

Details of the programs organized in the year 2023-24

- ❑ 510 new BS-6 Diesel buses are planned to be procured to facilitate smooth traffic in Bengaluru as per the increasing population.
- ❑ In the year 2023-24, Corporation has planned to issue free/concessional passes to 316026 general category, 73031 Scheduled Caste and 10943 Scheduled Tribe students totalling to 400000 students.
- ❑ Corporation has planned to impart Vehicle driving training and also provide driving license from Regional Transport Authority to 1150 Scheduled Caste and Scheduled Tribe candidates.
- ❑ Under “VanitaSangathi” scheme, with co-operation of Labour department, BMTC concessional bus passes will be issued to One Lakh women workers who are working in large numbers in garment industries of Bengaluru.
- ❑ In the year 2023-24, under capital expenditure Corporation has planned to provide basic facilities to passengers such as (1) Constructing a transport complex at Silk Board (2) Constructing staff quarters at Shantinagar (3) Providing basic amenities for electric buses in the organization and (4) Providing basic amenities for passengers at Kempegowda Bus Stand.

III. North Western Karnataka Road Transport Corporation

During the financial year 2022-23 (up to November) the Corporation earned profit of Rs. 44.75 Crores on total Revenue as against Rs. 277.66 Crores during the corresponding

period of the previous year. The profit earned is mainly due to Rs. 320 Crore special grant received by the Government. During the year cost of operation increased to Rs.1639.41 crores from Rs. 1111.48 crores of previous year. Cost increase is mainly due to hike in diesel price, spare parts, tyre costs. The percentage fleet utilization stood at 68.5. Corporation has been fulfilling its social obligation by providing free/ concession passes to several sections of the society, namely, students, physically challenged, blind, freedom fighters, endosulfan victims, Arjuna awardees etc.

With the co-ordination of the State Bank of India, Accidental insurance Scheme (Rs. 50 Lakhs) has been introduced for the welfare of the employees. Introduction of Health Insurance to cover the medical expenses free of charge to employees and their dependents is under process under the Suvarna Aarogya Suraksha Trust.

Commencement of other new programmes to improve progress

- ❑ Efforts are being made to provide more transport facility with the available vehicles and crew and in order to control the expenditure in the wake of the financial crisis of the Corporation due to Covid-19, Conductor-less services have been implemented in the Corporation. Currently 232 such services are being operated and these services will be increased gradually.
- ❑ With the aim to implement cashless ticketing in the Corporation, RFID cards have been introduced in Belagavi city on a pilot basis. In addition, QR code based payment has been introduced at 9 Pass Counters and 8 Reservation Counters in 3 Divisions. After analysing its pros and cons, the facility will be extended to other depots and divisions.
- ❑ As announced by the Hon'ble Chief Minister in the budget, 54150 free bus passes in first phase and 37448 passes in second phase for a period of three months were issued to building and other construction workers.
- ❑ Tenders have already been invited at 34 sites on rental basis for asset monetization of vacant sites in the Corporation. Apart from this, tenders are invited on "As is where is" basis for renting out the old building and premises of the Corporation.
- ❑ "Namma Cargo" Parcel service was initially started from 27 centers for the convenience of public and currently there are 45 centers.

IV. Kalyana Karnataka Road Transport Corporation (KKRTC)

Physical performance: During the year 2022-23(up to November-22), the Corporation operated 4070 schedules utilizing 4366 vehicles, scrapped 109 old vehicles which were not fit for operation. It is operating 13.56 lakh km, and earning daily (gross revenue) of Rs. 5.75 Crore. The percentage fleet utilization stood at 57.2.

Financial Performance: During the current year 2022-23 (upto November 2022), the Corporation, incurred loss of Rs. -2.62 Crore on total revenue as against the previous year period loss of Rs.-163.18 Crore. The loss of the Corporation is decreased by Rs. 160.56 crore, as compared with the margin of the previous year period.

New Initiatives

- ❑ **Internal group insurance scheme:** In case of death of the employees prematurely, an amount of the internal group insurance scheme currently offered to their dependents of Rs.3.00 is increased to Rs 10.00 lakh.
- ❑ **SBI Insurance Plan:** KKRTC has tied up with SBI and enforced an free accidental insurance scheme of Rs. 50.00 lakhs for the employees of the Corporation. If any employee of the Corporation died accidentally or private, will be provided an amount of Rs 50.00 lakh as accidental insurance benefit. If any employee, got permanently total disability in accident, will be provided an amount of Rs.20.00 lakhs and for permanent partial disability an amount of Rs. 10.00 lakhs will be provided.
- ❑ **Assets Monetisation:** KKRTC planned to increase other revenue and for which E-tender has been invited to install the Fuel Stations in 20 vacant plots under the jurisdiction of the Corporation and HPCL has been selected through tender in 11 vacant plots.
- ❑ **NAMMA KARGO:** KKRTC has established “NAMMA KARGO” parcel courier services in view of increasing other revenue.
- ❑ **Training for general candidates under CMKKY:** KKRTC imparted driving training to 270 candidates under the scheme of CMKKY.
- ❑ **Establishment of Training Centre for Heavy Vehicle Drivers at Kalaburagi:** Transport and Road Safety Department Karnataka Government has established Heavy Vehicle Drivers Training Center (Society) at Kalaburagi with the purpose of imparting refresher training to drivers and training to candidates who interested to learn new driving skills.
- ❑ **Heavy Driving and Technical training institute in Telkur:** It is Planned to establish heavy driving and technical training institute in 15 acre with the approximate cost of Rs.15.00 lakhs in Telkur of Sedum Taluk. Present work is in commencement stage.

V. Details of programmes and achievements of D.DevrajUrs Truck Terminals Limited.

- ❑ D. Devaraj Urs Truck Terminals Ltd has constructed Truck Terminals in Bengaluru, Mysore and Dharwad. These Truck Terminals are operational. The construction of Truck Terminal in an area of 13.28 Acres at Dasanapura Village of Bangalore North Taluk is completed. Construction of Truck Terminal Phase-1 at Amaravathi Village Hospet Taluk Vijayanagar District in an area of 37.82 acres which was purchased from KIADB is under progress.
- ❑ It is proposed to Construct 56.13 acres Logistic Park Cum Truck Terminal at Anchatgeri Village, Hubli Taluk, Dharwad District and 3.00 acres truck Terminal at Dandeli Village, Uttara Kannada District via PPP mode under PM Gatishakti Scheme. Tender work is under progress.
- ❑ **WAYSIDE AMENITIES:** The Government of Karnataka has made provision in its annual budget for the year 2022-23 to take up the work of construction of wayside amenities beside National Highways to facilitate drivers and commuters on PPP Model.

Proposed Projects: Further, Company is proposing to construct Truck Terminal/Logistic Parks/Highway Amenities in Bengaluru, Davanagere, Vijayapura, Shivamogga, Mangalore, Raichur, Hiriyuru, Chitradurga, Gadag, Bijapur, Hassan, Bidar, Belgavi and other Districts of Karnataka. The Deputy Commissioners of concerned Districts have been requested for allotment of suitable lands. The above Projects will be taken up depending on the availability of Land and Grant from the Government.

VI. Transport Department- Commissioner Office:

Steps are being taken to establish and operate heavy vehicle driver training institutes at Mangalore and Kalaburagi at a cost of Rs.3000 lakhs.

Automated (COMPUTERIZED) Driving Test Track: Driving Test Tracks are being set up at Mangalore, Raichur and Belgaum at a cost of Rs.2605 Lakhs, civil work has been completed and tender process is underway for installation of electronic sensors. In Devanahalli, Kolar, Hospet, Gadag, Bellary, Vijayapura, Bidar, Yadagiri and Davangere, automated driving test tracks are being set up at a cost of Rs.8000.00 lakhs from the Road Safety Fund.

Vehicle Inspection and Certification Centre: Vehicle Inspection and Certification Center has been set up with the help of the Central Government at Goudahalli in Dasanpur Hobli under Nelamangala Regional Transport Office and the said center is operational. Vehicle inspection and certification centers have been set up at Mysuru and Dharwad at a cost of Rs.3123 lakhs. Such centers are functioning. Vehicle Inspection and Certification Center has been set up at Chokkanahalli, Bangalore with the assistance of Rs.268 Lakhs from the Central Government, Rs.581 Lakhs from the State Government and a total cost of Rs.849.00 Lakhs at the premises belonging to BMTC. At present the civil works at the center are in the final stages of completion and installation of machinery is in progress.

Computerization and Smart Card of Transport Department: Services are being provided to public through web based online Sarathi-4 software (Driving License) and Vahan-4 software (Vehicle Registration Certificate) developed by Central Government in all 67 Transport Commissioners and Senior / Regional / Assistant Regional Transport Offices of the state.

About the use of CNG (Compressed Natural Gas) Powered Vehicles: Currently there are approximately 49,303 CNG fuel powered vehicles in the state, more than 100 CNG pumps have already been opened in the state through the City Gas Distribution (CGD) Network, which will encourage more use of CNG based vehicles instead of these vehicles to reduce petrol and diesel based vehicles. There are more than 100 CNG refuelling stations in the state including Bengaluru city. 58 Retrofit Centres (RFCs) have been authorized to install CNG Kits. Apart from vehicles converted to CNG fuel in the state, vehicles with Inbuilt CNG Kits are being used at the manufacturing stage of the vehicle. Using CNG fuel can reduce air pollution.

Retro Reflective Tape and Marking Plates (RETRO REFLECTIVE TAPE): Installation of Retro Reflective Tape & rear marking plates for all transport vehicles was implemented in the Regional Transport Offices from Date: 01-09-2022.

Registration of New Non-Transport Vehicles at Dealer's Point: The process registration of vehicles at the vehicle dealer's point progress is underway. Accordingly, so far there are 7 two-wheeler companies and 8 four-wheeler companies have been approved.

Vehicle Location Tracking System: The VLTS system will be implemented at a cost of Rs.21.5 crore in partnership with the Central Government and the State Government. The approval of the Cabinet has been received in this regard and the tender is under process.

Sustainable Development Programs (Departmental Development Programs)

- ❑ Registered Vehicle Scrapping Policy
- ❑ Karnataka Electric Bike Taxi Scheme 2021
- ❑ During the year 2021-22, a continuous operation against vehicles causing air pollution was carried out and 10,73,018 vehicles were inspected, cases were registered against 42,563 vehicles and an amount of Rs.5.39 crore was collected as fine.
- ❑ During the year 2021-22, a continuous operation against vehicles causing noise pollution was carried out and 10,23,268 vehicles were inspected, cases were registered against 17,433 vehicles and an amount of Rs.4 crore was collected as fine.
- ❑ In the state of Karnataka from April 2021 to March 2022, a total of 9,123 driving licenses were received from the police department for suspension of driving licenses for drunken driving and other crimes, out of which 1,416 were suspended for drunk driving and 6,180 for other crimes, totaling 7,596 driving licenses. And in the remaining 1,587 cases, notices have been issued.
- ❑ As on November 2022, Out of 29440940 total vehicles, 3042350 vehicles were transport vehicles. Out of 26398590 non-transport vehicles, 20873537 vehicles were two wheelers.(From April 2022 to November 2022, totally 1016488 new vehicles have been registered). It may be observed that in our state highest addition of two wheelers, followed by cars. The details of vehicle registered from last 12 years (2010-11 to 2021-22) in Bengaluru City and Karnataka state is given in **Table 10.21**.

Table 10.21: Details of vehicles registered from last 12 years 2010-11 to 2021-2022 in Bengaluru city and Karnataka state.

Year	Bangalore City	Karnataka State	Share of Bengaluru (%)
2010-11	4548048	12206782	37.26
2011-12	5033002	13528553	37.20
2012-13	5526860	14938915	37.00
2013-14	6022821	16378930	36.77
2014-15	6575589	17958850	36.61
2015-16	7161476	19588128	36.56
2016-17	7785949	21240804	36.66
2017-18	8364274	22841111	36.62
2018-19	9027416	24541987	36.78
2019-20	9638362	26117614	36.90
2020-21	10010588	27274117	36.70
2021-22	10409289	28424452	36.62
2022-23 (as on Nov)	10828302	29440940	36.78

Recommendations made in the Evaluation studies conducted through Karnataka Evaluation Authority about the Karnataka State Road Transport Corporations (KSRTC, NWKRTC and KKRTC) from 2014-15 to 2019-20.

Enhancement of Operational Efficiency: Digitizing the depot level route maps and integrate with corporation level, Incentivize people to increase their utilization of public transport for private players, Corporation may be incentivised to reach the Fuel Efficiency, Creating the separate division operates only luxury buses by merging all corporations, Setting up of a common MIS data base, Adopt ITS system to provide real time updates to passengers and Establish better inventory level management practice.

Enhancement of financial Efficiency: Enhancement of Revenue through increase in fares, Work out the compensation from government on Diesel price increase and Operation of unviable routes, Capital infusion by the government for sustainable operations, Identification of assets that can be monetized, Government shall explore Direct Benefit Transfers (DBT) to the passengers who are provided with concessions and Ensure depreciation fund utilised only for replacement of operation asset and purchase of new buses.

Enhancement of service delivery: Conduct regular demand assessment by providing training to depot managers and traffic managers and Unutilised land may be converted for commercial purposes.

10.2.3. Infrastructure

I. Railways Projects:

Major programs undertaken by the Railway Branch in the year 2022-23 are:-

New Railway line projects: To increase rail density in the state of Karnataka, thereby improving the socio-economic development of different parts in the State, 9 new railway line projects are being taken up duly sharing the cost of the project on 50:50 basis between Government of Karnataka and Ministry of Railways. These 9 Projects are as follows: Ginigera-Raichur, Bagalkot-Kudachi, Gadag-Wadi, Tumkur-Rayadurga, Chikmagalur-Belur, Tumkur-Chitradurga -Davanagere, Shimoga -Shikaripura-Ranebennur and Dharwad-Belagavi, Belur-Hassan.

Among these, the State Government is bearing 50% of the Project cost including land acquisition cost for Ginigera-Raichur and Tumkur-Rayadurga new railway line projects. In the remaining 7 Projects, State Government is sharing 50% of the construction cost and 100% Land acquisition cost. A grant of Rs.750 crore has been provided for these railway projects in the financial year 2022-23. An amount of Rs. 500 crore has been released for these projects as on Nov 2022. A grant of Rs.3711.20 crore has so far been released by the state government for the implementation of these projects. Out of which Rs.1973.80 crore have been utilized for land acquisition compensation of 9131.6 acres and Rs.1737.40 crore have been released for railway works.

K-RIDE Road Over bridge / Road Under Bridge : Out of the total grant of Rs.75.00 crores provided for the year 2022-23 for the ongoing road over bridge / under bridge construction works, grant of Rs 12.70 crores under Capital Investment Road has been released. Details are given in **Table 10.22**.

Table 10.22: Details of K-RIDE Road Over bridge / Road Under Bridge

Project details	Grant provided in 2022-23	Released grant
About construction of road over bridge in LC No. 66 at Koppal-Ginigera railway station.	Rs 75.00 crores	0.70
Regarding construction of road flyover in LC No.37 near Tumkur-Kyatsandra railway station yard.		12.00
Total	75.00	12.70
Physical Progress Details: At present 50 RoB's/RuB's have been taken up by the State Government out of which 14 works have been completed and the completion certificate from the railway department is awaited. Remaining 36 works are in progress.		

II. Bengaluru Metro Rail Corporation Limited (BMRCL)

The Project is being implemented through a Special Purpose Vehicle (SPV) Bangalore Metro Rail Corporation Limited (BMRCL), with an equal share holding owned by Government of India and Government of Karnataka. An amount of Rs 2612.70 crores (RE+OB) is allocated to the BMRCL for 2022-23 of which an amount of Rs. 792.02 crores is released upto Jan 2023. The expenditure incurred is Rs. 3117.67 crores. The entire allocation pertains to productive allocation. Details of Scheme wise progress of BMRCL as on January 2023 (avalokana) given in **Appendix 10.4**.

Bangalore Metro Rail Project Phase-1 : The Phase-1 of the Bangalore Metro Rail Project work is completed in stages from 2011 and commercial operations started. Presently on an average of 5.3 lakhs passengers are travelling per day.

Bangalore Metro Rail Project Phase-2: The Phase-2 of the Bangalore Metro Rail Project was sanctioned by GOI in February 2014. The Project consists of Four Extensions to the existing lines and two New Lines. The total length of Phase-2 is 75.06 km with 61 stations (49 Elevated and 12 Underground). The estimated project cost is Rs. 30695 Crore. The details of summary of breakup of costs for new lines are given in the **Table 10.23**.

Table 10.23 : Phase-2 reach wise length and estimated cost

Name of the Line	Length of the line in Km	Estimated Cost (Rs. in Crore)	Physical Progress status
Baiyappanahalli to PattandurAgrahara-Whitefield	15.81	5,449.00	works are completed, Trial run is under progress and programmed for commissioning by March 2023.
Mysore Road to Challaghatta	9.58	2,019.00	Mysore Road to Kengeri having a length of 7.53 Kms has been commissioned on 29.08.2021 and Kengeri to Challaghatta 2.05 Kms works are under progress.
Nagasandra to Madavara (BIEC)	3.14	1,147.00	Civil works are under progress.

Name of the Line	Length of the line in Km	Estimated Cost (Rs. in Crore)	Physical Progress status
Yalachenahalli to Silk Institute	6.12	2,363.00	commissioned on 14.01.2021.
R.V. Road to Bommasandra	19.15	6,900.00	Civil works under progress.
Kalena Agrahara to Nagawara	21.26	12,817.00	a) From Kalena Agrahara to Dairy Circle 7.50Kms Civil works under progress b) From Dairy Circle to Nagawara 13.76 Kms., Civil works are under progress.
Total	75.06	30,695.00	

All works are in progress, as on November-2022 Physical and Financial progress are 73.50% & 78.20% respectively. Phase-2 works are programmed to complete in stages from January-2021 and entire work is programmed to complete by March-2025.

Bangalore Metro Rail Project Phase-2A and 2B: The construction of 58.19 km long Outer Ring Road – Airport Metro, Phase-2A Central Silk Board junction to K.R. Puram and Phase-2B K.R. Puram to Bengaluru International Airport via Hebbal at an estimated cost of Rs. 14,788.10 crore. Civil works are started. The project is programmed to complete by September 2025.

Proposed Project:

Bangalore Metro Rail Project Phase-3: GoK approved to take up 45 Kms., of ORR West Metro in the following routes: Kempapura to J.P. Nagar 4th Phase: 32.15 Kms, Magadi Road from Hosahalli Metro Station to Kadabagere: 12.50 Kms. These lines are proposed to be constructed through equal share holding owned by GoI&GoK. Presently, DPR approved by Gok and has been sent to GoI for approval.

III. Airports

KSIIIDC is acting as the nodal agency for implementation of infrastructure projects on Public Private Partnership (PPP) model and Civil Aviation activities in the State.

- ❑ Construction of Airports have been undertaken in Shivamogga, Vijayapura, Hassan districts and works are in progress.
- ❑ For Raichuru Airport Development Detailed Project Report (DPR) has been completed.
- ❑ For the proposed airports at Koppal and Davangere districts pre-feasibility reports have been prepared .
- ❑ For the proposed Heliports at Hampi, Kodagu and Chikkamagaluru pre-feasibility reports have been completed and Detailed Project Report (DPR) preparation have been taken up.

- ❑ The Tadadi Eco Tourism Hub is being developed on 1819 acres of land at Tadadi, Kumta Taluk. Feasibility Report is prepared, Expression of Interest has been called and Master Plan is being prepared by Transaction Advisor.
- ❑ Development of Logistics Park at Balepur village in Devanahalli on PPP model is under progress.

Challenges and way forward

- ❑ Shivamogga Airport to start operations in Feb-2023. Already, arrangements are being made for the operation and maintenance of Shivamogga Airport.
- ❑ Hassan and Vijayapura airports are expected to start operations by the end of 2023.
- ❑ For Development of Raichuru Airport Construction work will be started soon.
- ❑ For Karwar airport Master Plan and related studies have been completed.
- ❑ Steps are being taken for the development of airports in Koppal and Davangere district.
- ❑ Steps are being taken to appoint a consultant to prepare DPR for Bellari Airport.

IV. Ports and Inland Water Transport

Karnataka has a coastline of 320 km with one major port and 13 minor ports. The New Mangalore Port is the only major port in Karnataka which is under the control of Ministry of Shipping, Government of India and remaining 13 minor ports are under the control of the State Government. Among these 13 minor ports, Karwar and Old Mangalore ports have handled significant volumes of cargo. Rs.19.91 Cr of revenue was earned by handling 5.78 lakh MT of cargo at State Minor Ports during 2022-23 (April 2022 to November, 2022).

An amount of Rs 962.83 crores is allocated to the Infrastructure Development and Ports and Inland Water Transport Department for 2022-23 of which an amount of Rs. 936.19 crores is released upto 20th Jan 2023. The expenditure incurred is Rs. 750.45 crores. Out of the total allocation, the productive allocation is Rs 773.50 crores of which the expenditure incurred is Rs. 698.11 crores. Details of Scheme wise progress of Infrastructure Development and ports and Inland water Transport Department as on January 2023 (AVALOKANA) is given in **Appendix 10.5**.

Ports Development: At present, Honnavar port is being developed by M/s Honnavar Port Pvt. Ltd., (HPPL), Hyderabad. Action has been initiated to develop Belekeri (project cost of Rs. 4118.00 Cr) & Pavinakurve Port (project cost of Rs. 3047.00 Cr) under PPP Mode.

Centrally sponsored Sagarmala Coastal Berth Scheme : Government of India has approved revised Central Sector Scheme for providing support to Major/ Non-major Ports/ State Government for creation of infrastructures to promote movement of cargo/ passengers by sea/ National waterways. Ministry of Shipping, Gol has approved 4 Projects in Karnataka State to develop Karwar and Old Mangaluru Port.

Details of Proposals submitted to the Sagarmala Cell : Revised proposal of 81 projects amounting to Rs.7634.58 Cr is submitted to Gol. In these Rs 1622.23 crores 26 projects DPR has been submitted for approval, till date 12 projects of cost Rs. 598.60 is approved.

Coastal Protection Works: During the year 2021-22, 2977m long seawall is constructed in 3 coastal districts at a cost of Rs.35.00 Cr. During 2022-23, budgetary allocation of Rs.10.00 crore is provided and 505 m long seawall is constructed at a cost of Rs.4.98 Cr. up to November, 2022.

Inland water transport ferry service: There are 123 ferry services in the state, out of which 11 ferries are managed by the department by deploying mechanized vessels, 14 ferries are operated by auction cum lease under the supervision of the department. Remaining 98 ferries are being operated by Zilla/ Taluk/ Gram Panchayat/Tourism/ Forest Department and other private agencies. 6 LCT's and 2 mini LCT's, 4 Mechanized steel boats, 12 fiber glass mechanized boats, 14 fiber glass boats & 4 wooden boats are operating at different ferries of the State.

National Logistics Policy: National Logistics policy aims to reduce logistics costs to 7.5% of GDP from 13% now. The National Logistics Policy is the obvious next step after the PM Gati Shakti National Master Plan and would offer a comprehensive roadmap for the growth of the whole logistics ecosystem.

LEADS (Logistics Ease Across Different States): Karnataka stands in 4th position 3.37 (Score 40) as per Logistics Ease Across Different States (LEADS). State should drastically cut its logistics costs to increase the competitiveness of its exports and domestic products. Reduced logistics costs increase efficiency across several economic sectors, promoting value creation and entrepreneurship.

PM GATI SHAKTI NMP/SMP: 20 projects approved by EGOS(Empowered Group of Secretaries) worth Rs.19612.38 Crores have been submitted to DPIIT for special assistance under Part-I and Part-II of GOI Special Assistance Scheme for States for Capital Investment projects for FY 2022-23. Further, 8 projects approved by EGOS worth Rs.6011 Crores have been submitted to DPIIT for special assistance under Part-I and Part-II of GOI Special Assistance Scheme for States for Capital Investment projects for FY 2022-23.

28 projects worth Rs. 25623.38 Crores have been uploaded in the PM Gati Shakti NMP/ SMP. Annual and Supplementary Action Plan (28 projects worth Rs. 25623.38 Crores) for FY 2022-23 has been submitted to DPIIT for special assistance under Part-I and Part-II of GOI Special Assistance Scheme for States for Capital Investment projects for FY 2022-23. Department of Expenditure, Ministry of Finance, GOI, on the recommendations of DPIIT, has sanctioned and Released Rs.182 Crores (Full share of state). IDP & IWT Dept./ KSIIDC has been sanctioned and released Rs.5 Crores for setting up of PM Gati Shakti Data Center. Commerce and Industries Department, GOK has been sanctioned and released Rs.177 Crores for implementing Multi Modal Logistics Park (MMLP) at Oblapura, Dabaspet, Bengaluru Rural. These two projects are under implementation.

PROJECT MONITORING GROUP (PMG): PMG in DPIIT is an Institutional Mechanism for resolving various pending issues relating to critical infrastructure projects. Infrastructure Development, Ports & Inland Water Transport Dept. (IDP&IWT) , GOK is the Nodal Dept. Managing Director, KSIIDC is the State Nodal Officer. DPIIT has been regularly reviewing / monitoring the progress of PMG projects. 30 PMG projects worth Rs. 87028.87 Crores with 75 pending issues have been reviewed by GOI & GOK jointly.

10.2.4 Telecommunication

The telecommunication system in the State is operated by both private and public sector undertakings. Apart from BSNL, a number of private companies like Vodafone Idea Ltd., Reliance Jio Infocom Ltd., Bharati Airtel Ltd, MTNL, Reliance Communications Ltd/ Reliance Telecom Ltd etc. are providing the wireless and wireline phones. Details of service Area wise access (wireless and wireline) subscriber base in Southern States is presented in **Table 10.24**. The teledensity (both BSNL and private cellular operators) in the southern states is presented in **Table 10.25**. Karnataka stands in 2nd position among the southern states in Urban teledensity (SDG Goal 9 indicator-Number of mobile connections per 100 persons). The number of internet subscribers per 100 population in Southern States is presented in **Table 10.26**.

The number of landline connections and telephone exchanges has declined significantly. The decline in landlines can be partly attributed due to increased private participation in the mobile telephony sector and switchover to mobile phones. Compared to previous year 19 post offices have decreased during the year 2021-22 in our state. The details of number of post offices, telephone exchanges, number of telephones, mobile phones and Internet connections in Karnataka from 2018-19 to 2021-22 are presented in **Table 10.27**.

Table 10.24 Service Area wise access (Wireless & Wireline) Subscribers base in Southern States (Subscribers in Millions)

States	Subscribers	Percentage
Tamil Nadu	81.36	29.17
Kerala	44.20	15.85
Karnataka	67.99	24.38
Andhra Pradesh	85.30	30.58
Total	278.85	100.00

Source: Indian Telecom Services Performance Indicator Report for Quarter ending June, 2022

Table 10.25 : Southern States Teledensity (%)

Service Area	Rural Teledensity	Urban Teledensity	Total Teledensity
Tamil Nadu(incl.Chennai)	64.52	139.56	104.58
Telangana	85.10	132.12	107.34
Kerala	211.33	92.69	123.65
Karnataka	70.20	139.73	100.85
Andhra Pradesh	122.90	228.10	83.82
National Average	58.46	134.72	85.13

Source: Indian Telecom Services Performance Indicator Report for Quarter ending June, 2022.

Table 10.26: Service area wise number of internet subscribers per 100 population in southern states

Service Area	Rural	Urban	Total
Tamil Nadu	43.23	96.96	72.10
Kerala	153.49	61.92	85.77
Karnataka	48.76	103.52	72.90
Andhra Pradesh	51.32	95.08	69.16
National Average	37.86	103.27	60.73

Source: Indian Telecom Services Performance Indicator Report for Quarter ending June, 2022.

Table 10.27: Number of Post Offices, Exchanges, Telephones, Mobile phones and Internet Connections

Year	Post offices	Telephone Exchanges	Telephones	Mobile phones	Internet Connections
2018-19	9664	2793	1229813	6976379	474705
2019-20	9618	3012	754544	5402245	249071
2020-21	9612	2686	510255	5489813	243928
2021-22*	9593	2313	474576	9075002	1209209

Source: *Karnataka State at Glance- Statistical Report- FY 2021-22

WAY FORWARD

- ❑ Development of all National Highways at least to 2 lane (1389 km of NH are having Intermediate lane and single lane)
- ❑ Development of all State Highways at least to intermediate lane (6312 km State highways are having single lane.)
- ❑ Development of all Major district roads with black top. (1955 km MDRs having metal surface and 1116 km are earthen surface).
- ❑ The need of the hour is to leverage net connectivity and spur economic activities/ services in rural areas
- ❑ Provision of high quality and expanded coverage of public transport.
- ❑ Considerable investment both, in public and private transport for sustainable infrastructure.
- ❑ Encourage non-motorable transport such as metro transport, bicycle, also walking for short distances.
- ❑ Remodelling and restructuring the urban transport design and infrastructure by prioritizing rapid bus transit or light rail over private vehicles

- ❑ Promoting e-mobility through incentives, creation of infrastructure and R&D (retrofitting petrol and diesel vehicles) through public-private partnerships
- ❑ Adoption of instruments such as tax, subsidy, pricing of automobiles for the sustainable transport system.
- ❑ Energy-efficient public transport and incentivising investment in energy-efficient technologies, industries and infrastructure.
- ❑ Provide adequate grants and enhance fiscal incentives, such as R&D tax incentives, subsidising research, tax credits etc to encourage technological and infrastructure innovations. Facilitate grants & subsidies specifically for projects with high social returns should be encouraged.

10.3 BANKING AND FINANCE INCLUDING COOPERATIVES

10.3.1 Introduction

Karnataka State has a fairly well-developed financial infrastructure. The State has pioneered in establishment of many leading commercial banks and is home to a wide network of commercial bank branches in the country. Currently, Twelve Public Sector Banks, Twenty-two Private Commercial Banks, Two Regional Rural Banks, One Co-operative Bank, 256 Scheduled Cooperatives Banks, Eight Small Finance Banks, Two Payment's Banks, and One Local Area Bank are operating in the State. Disbursement of credit in rural areas takes place through co-operative banks, commercial banks, and regional rural banks.

National Bank for Agriculture and Rural Development (NABARD), as an apex level financial institution, plays a lead role in the promotion of agriculture and rural development, by preparing Potential Linked Credit Plans (PLPs) and annual action plans at the grass root level. A major portion of NABARD's refinance and developmental initiatives are channelized through the banking sector.

10.3.2 Karnataka – Banking scenario

An overview of the position of the banking network and ATM network in Karnataka during the previous years is shown below:

Table 10.28: Banking Network Across Karnataka

Category	Branch Network			ATM Network		
	Mar' 20	Mar' 21	Mar' 22	Mar' 20	Mar' 21	Mar' 22
Rural	4214	4218	4242	2538	2441	2246
Semi urban	2560	2629	2642	3489	3677	3116
Urban	2364	2375	4770	4295	4322	11813
Metro/PT	2331	2433		7246	7250	
Total	11469	11655	11654	17388	17690	17175

Source: SLBC (Agenda Notes of 157th Meeting: page no.53, 88), Karnataka.

The Category-wise Branch network across the Karnataka over the past three years is shown in the **Table 10.29**.

Table 10.29: Category wise Branch Network-Year ending

Branch	March 2020	March 2021	March 2022
Commercial Banks	8373	8414	8360
Regional Rural Banks	1775	1763	1747
KASCARD	203	203	203
DCC Bank (K.S.co-op Apex Bk)	858	866	901
Karnataka Industrial Co-operative Bank	38	38	* (38)
Small Finance Banks	159	308	399
Payment Banks	31	31	31
Local Area Bank (LAB)	-	-	13
KSFC	32	32	** (32)
Total	11469	11655	11654

*KICB-38 Banks** KSFC-32 Banks. Source: SLBC (Agenda Notes of 157th Meeting; page no. 53)

10.3.3 Deposits and Advances

The category wise aggregate deposits and advances in the State along with the C.D. Ratio as on March 2022 is shown in the **Table 10.30**.

Table 10.30: Performance of Scheduled Commercial & Other banks. (Rs. in Crore)

Indicator	Deposits		Advances		C-D Ratio	
	2020-21	2021-22	2020-21	2021-22	2020-21	2021-22
Commercial Banks	1059484.9	1212864.30	722200.07	808367.28	65.66%	66.64%
Regional Rural Banks	47167.67	49433.95	36530.43	38528.22	77.00%	77.93%
Co-operative Banks	44854.36	49089.60	43379.64	48045.84	91.00%	97.87%
Total	1151506.96	1311387.85	802100.13	894941.34	70.00%	68.24%

Source: SLBC (Agenda Notes of 157th Meeting; page no. 153-154), Karnataka.

10.3.4 Aggregate Bank Deposits and Gross Credit in all States and UTs upto Sept. 2022

As per RBI quarterly statistics statement & bankers' committee, Karnataka stands in 4th position in terms of aggregate deposits and gross credit in India .

Table 10.31: Aggregate Bank Deposits and Gross Credit

States & UTs	September 2022				
	Number of Reporting offices	Aggregate Deposit	Rank	Gross Credit	Rank
MAHARASHTRA	13438	3569745	1	3540339	1
NCT OF DELHI	3564	1577462	2	1444416	2
UTTAR PRADESH	17829	1433747	3	645236	7
KARNATAKA	10635	1379263	4	887053	4

Source : Quarterly Statistic issued by RBI - July 2022.

10.3.5: Details of Priority Sector Advances

The Advances made under various Priority Sectors in the State over the past three years is shown in the **Table 10.32**.

Table 10.32: Distribution of Priority Sector Advances (Amount in Crore)

Indicator	March 2020		March 2021		March 2022	
	Advances	% to Total Advances	Advances	% to Total Advances	Advances	% to Total Advances
Total Advances	749651	-	802100	-	894941	-
Total Priority Sector Advances (PSA)	285959	38.15	311799	38.87	351165	39.24
Agriculture	130905	17.46	149082	18.59	170411	19.04
MSMEs	102811	13.70	103830	12.94	128161	14.32
Weaker Sections	77378	10.32	87867	10.95	119428	13.34

Source: SLBC (Agenda Notes of 158th Meeting: page no. 23 & 157th Meeting: page no.114-118), Karnataka.

10.3.6. Ground Level Credit Flow for Agriculture:

10.3.6.1. Performance under Annual Credit Plan (ACP)

The overall achievement in Agriculture lending under ACP is shown in the **Table 10.33**.

Table 10.33 : Performance under ACP during last 5 years from 2017-2018 to 2021-22.

(Rs in Crore)

Particulars	2017-18		2018-19		2019-20		2020-21		2021-22	
	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.
Crop Loan	58563	33539	64972	57804	72816	57804	66018	69910	71923.65	61309.96
Term Loan	28127	55566	33683	33733	42122	33733	46181	56547	54069.72	57477.74

Particulars	2017-18		2018-19		2019-20		2020-21		2021-22	
	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.	Target	Ach.
Total Agri	86690	89105	98655	91537	114938	91537	112199	126457	125993.37	118787.70
Percentage: Achievement to target										
Crop Loan	57.27	58.22	79.38	105.90	85.24					
Term Loan	197.55	94.65	80.08	122.45	106.30					
Overall	102.78	70.65	79.64	112.71	94.28					

(Source SLBC)

10.3.6.1.2 Annual Credit Plan 2022-23 and performance as on 30th November 2022

The Ministry of Finance, Government of India has fixed the ground level credit target for agriculture, by the banks as Rs.115854 Cr for 2022-23. Considering the budgetary formulations and on the basis of the ground level disbursements, the projections made by NABARD in the Potential Linked Plans, the annual credit plan for agriculture for the year 2022-23 for the State of Karnataka has been pegged at Rs.140873.49 Cr. The crop loan target for 2022-23 has been fixed at Rs.81896.24 Cr and agriculture Term loan target at Rs.58978.37 Cr. Agency wise performance under Annual Credit Plan as shown in the **Table 10.34**.

Table 10.34: Agency wise performance under Annual Credit Plan as on 31.03.2022

(Rs in Crore)

Sector	Annual target 2021-22	Disbursement as on 31.03.2022					% Ach
		Comm. banks	RRBs	Coop Banks	KSFC & others	Total	
Agri and Allied	125992.17	81895.29	16218.38	19595.39	1078.06	118787.11	94%
MSME	111826.95	75138.60	1759.89	2690.82	464.15	80053.46	72%
Export credit	3627.92	494.96	0.00	0.00	0.00	494.96	14%
Education	5969.86	1199.36	36.71	0.26	0.40	1236.74	21%
Housing	30164.90	7305.91	191.85	222.92	303.05	8023.73	27%
Social - Infra	2200.95	548.86	0.00	23.45	0.00	572.30	26%
Renewable Energy	3111.28	187.53	0.27	0.08	0.00	187.88	6%
Others	9498.22	3683.12	255.95	2955.03	1187.70	8081.79	85%
Total	292392.26	170453.63	18463.06	25487.94	3033.35	217437.98	74%

Source: State Level Bankers Committee (SLBC), Karnataka

10.3.6.2 Institutional Development – Cooperatives

A meeting of High-Level Committee (HLC) under the Chairmanship of Additional Chief Secretary and Development Commissioner, GoK was held in October 2022 to review the financial health of Cooperative institutions & to discuss issues of cooperative institutions also State Level Task Force (SLTF) & District Level Monitoring and Review Committee (DLMRC) was held to review the financial achievement. Grant assistance of Rs. 5.00 lakh was extended to 15 PACS under 3 DCCBs for infrastructure & for capacity building of the staff of DCCBs/StCB under Cooperative Development Fund from NABARD and for staff of DCCBs and Apex Bank & for four institutes i.e ACSTI, SAHARDA, NIRB and RICM & in association with BIRD, Mangaluru, during 2021-22 on-location orientation training was also imparted.

10.3.6.2.1 Institutional Development – Regional Rural Banks (RRBs)

Post amalgamation, the State has 2 RRBs namely Karnataka Vikas Grameena Bank (KVGB) head quartered at Dharwad with 629 branches & Karnataka Gramin Bank (KaGB) head quartered at Ballari with 1119 branches as on 30.09.2022. These 2 RRBs have been making profits with CRAR above 9% & with CRAR of KVGB at 11.81%, for KaGB at 11.90% as on 31.03.2022.

10.3.6.2.2. StCB/DCCBs- There are 22 Rural Cooperative Banks in the State comprising of the Karnataka State Cooperative Apex Bank Ltd., at the Apex Level and 21 District Central Cooperative Banks (DCCBs) at the district level duly licensed from R.B.I. As per RBI instructions, all banks in Karnataka have achieved mandated CRAR of 9%.

10.3.6.3 Status of SHG and JLG (Joint Liability Groups) in Karnataka:

(i) The Micro Finance Profile of the State (As on March 2022)

- ❑ Cumulative Number of SHGs Saving linked - 802762
- ❑ Number of SHGs credit linked during 2021-22 - 454020
- ❑ Bank Loan disbursed during the year 2021-22 - Rs. 13771.43 Cr.
- ❑ No. of SHGs with loan outstanding - 679643
- ❑ Bank Loan outstanding - Rs. 16520.71 Cr
- ❑ Average Loan per SHG issued- Rs. 2.43 Lakh
- ❑ Percentage of Women SHGs-92%

(ii) Digitization of SHGs – E-Shakti project: In Karnataka, Digitization of SHGs is being carried in 29 districts. Around 3.10 lakh SHGs have been digitized benefitting 36.20 lakh rural poor in 13839 villages.

10.3.6.4. RIDF Assistance to Karnataka

Rural Infrastructure Development Fund (RIDF) was set up in 1995-96 with an initial corpus of Rs.2000 Cr under RIDF Tranche I for the year 1995-96, the allocation has reached the level of Rs.40490.95 Cr under RIDF XXVII (2021-22). During 2022-23, as on 10.01.2023, against normative allocation of Rs.1500.00 Cr to the State, RIDF projects to tune of Rs.1515.15 Cr are submitted to NABARD HO for sanction under RIDF XXVIII. During 2022-23, as on 10.01.2023, an amount of Rs.492.15 Cr was disbursed to the State Government under the RIDF. Since its inception, total number of projects, loan sanctioned, disbursements made is shown in the **Table 10.35**.

Table 10.35 : The Sector-wise Sanction and Disbursements Details**(Rs. in Crore)**

Name of the Sector	No. of projects	Total Financial Outlay	Loan Sanctioned	Amount Disbursed
Agriculture and allied projects	4901	1848.61	1714.76	1299.04
Social sector projects	20996	5830.02	4503.01	3074.21
Irrigation projects	5200	5121.92	4293.92	3724.66
Rural roads and bridges	12569	8020.95	6538.55	5974.97
Total	43666	20821.50	17050.24	14072.88

27% of RIDF loan has been sanctioned to Social Sector Projects. The share of Agri & allied and Rural Connectivity were of the order of 35% and 38% respectively.

Impact of RIDF in the state: The sanctioned projects on completion will provide the following benefits:

- ❑ Irrigation infrastructure- 4.78 Lakh ha will be brought under Irrigation.
- ❑ Agriculture & Allied- 1684 Veterinary Institutions, 853 Infrastructure projects in Rural Markets, 258 Raita SamparkaKendras, 33 Fish Jetties, 10 Cocoon Quality Testing Labs, 3 Pesticide Residue Labs, 1 high tech cocoon market and training center.
- ❑ Social Sector- 13353 Rural Education Infrastructure projects (Primary & Secondary schools, PU colleges, Polytechnic, ITI, GTTC, agriculture & horticulture colleges etc.), 6472 Anganwadis, 337 Health Infrastructure Projects (PHC, CHC, MCH).
- ❑ Connectivity of 45353 km of Rural Roads and 60300 m of Rural Bridges.
- ❑ 6 Drinking water supply projects benefitting 2318 habitations & 231 villages.
- ❑ **Warehouse Infrastructure Fund (WIF):** With an allocation of Rs.5000 Cr to NABARD in the budget for 2014-15, WIF loans are availed by Karnataka State Warehousing Corporation (KSWC) for 416 projects with a loan of Rs.1003.90 Cr. and Department of Agriculture & Marketing (DAM) for 112 projects with a loan of Rs.696.53 Cr.
- ❑ **Long Term Irrigation Fund (LTIF):** LTIF fund setup in 2016-17 with initial fund of Rs.20000 Cr has provided assistance for 5 irrigation projects viz. Narayanpur Left Bank Canal (ERM), Upper Tunga Irrigation Project, Bhima LIS, Karanja and Sri Rameswar Irrigation of Rs.1837.34 Cr with an amount of Rs.1183.32Cr as Central Share.
- ❑ **Micro Irrigation Fund (MIF):** GoI launched Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) on 1st July 2015 with the vision of extending the coverage of irrigation. Micro Irrigation Fund with a corpus of Rs.5000 Cr in 2019-20 for mobilizing additional resources for expanding coverage under micro irrigation loans at 3% below the cost of funds. As on March 31, 2022 the cumulative sanction and releases under MIF stands at Rs.3970.20 and Rs.2083.70 Cr, respectively to an area of 12.83 lakh ha involving 10.20 lakh farmers.

- ❑ **Dairy Processing and Infrastructure Development Fund (DIDF):** The Union Finance Minister set up Dairy Processing and Infrastructure Development fund (DIDF) of Rs.8004 Cr to modernize Dairy Industry. Progress made in Implementation is shown in the **Table 10.36**.

Table 10.3.6.4.2 Details of Projects Sanctioned for KMF under NABARD Scheme.

(Rs. in Crore)

Name of the project (Dairy plant) with district	Sanctioned by NABARD	Disbursed by NABARD
Kanva, Ramanagara district	210.00	209.46
Channarayapatna, Hassan district	87.53	58.12
Uppoor, Udipi district of Dakshina Kannada Milk Union	55.00	46.41
Alanahally, Mysore district of Mysore Milk Union	69.00	69.00
Chikkaballapur of Kolar -Chikkaballapur Milk Union	103.18	80.86
Kanakpura, Ramanagara district of Bangalore Milk Union	200.00	200.00
Kuderu, Chamrajanagar district of Chamrajanagar Milk Union	60.00	60.00
Ballari of Raichur – Ballari – Koppal Milk Union	0.00	0.00
Hassan of Hassan Milk Union	135.33	0.00
Grand Total	920.04	723.85

- ❑ **Fisheries and Aquaculture Infrastructure Development Fund (FIDF):** The proposed FIDF size of Rs.7522.48 Cr by Gol envisaged for creation of fisheries infrastructure facilities both in marine and inland fisheries sectors to achieve the target of 15 million tons by 2020 set under the Blue Revolution.

10.3.6.5. Other Development Initiatives

(a) Farmers Producers Organization (FPOs):

- ❑ Collectivization of agricultural produce for the purpose of enhancing their net income.
- ❑ Assisting 384 FPOs in 31 districts through 80 odd NGOs / Institutions acting as Producer Organization Promoting Institutions (POPIs)/ Community Based Business Organizations (CBBOs) with 194523 farmers as members with a grant assistance of Rs. 51.96 Cr.
- ❑ Out of the 384 FPOs, 354 are registered thereby mobilizing share capital of Rs. 19.64 Cr. Majority of the FPOs are involved in production, procurement and marketing of various agri-horti crops, High Value Crops such as chia seeds, tender coconuts, coffee, Udipi-mattugulla.

Initiatives of NABARD

- ❑ NABARD in collaboration with Rashtriya e-Markets Ltd. (ReML), an SPV of GoK and NCDEX, seeks to provide wider market access to farmers/ 108 FPOs through the online unified marketing platform (UMP).

- ❑ In convergence with Tribal Cooperative Marketing Development Federation of India Ltd. (TRIFED), GoI and Dept. of Tribal Welfare Van Dhan Vikas Kendra (VDVK) is set up for setting up primary processing unit for various agricultural commodities like millets, dal, tamarind, oils etc.
- ❑ NABARD has collaborated with Coffee Board, GoI for branding, packaging, labelling etc., for better marketability of products of tribal FPOs.
- ❑ NABARD with KAPPEC has initiated direct export of Rose onion from FPOs comprising predominantly of small and marginal farmers.
- ❑ National level MoU has been signed between NABARD & APEDA for capacity building of various stakeholders through conduct of outreach programs, awareness creation programs & workshops.
- ❑ NABARD, Karnataka Regional Office joined hands with Karnataka State Agricultural Produce Processing & Export Corporation Limited (KAPPEC), a GoK owned entity, in supporting the Gherkin growing FPOs of Tumakuru District by facilitating their direct linkage with Gherkin Exporters.
- ❑ NABARD, Karnataka RO has taken initiative for providing export-oriented business licenses through Yalli Infoventures Pvt. Ltd. in collaboration with APEDA, KAPPEC and FSSAI.

(b) Integrated tribal development: NABARD has been implementing integrated tribal development projects on wadi (small orchard up to one acre) basis in various tribal dominated pockets of the country, through “Tribal Development Fund”. Cumulatively, NABARD has sanctioned 34 projects in 14 districts with a total financial assistance of Rs.103.27 Cr in the State so far under this fund.

(c) Watershed Development Fund (WDF): In order to mitigate the vagaries of drought, over an area of 3.23 lakh hectare, NABARD has sanctioned 344 Watershed Development Projects of which 339 are regular WDF projects (both completed and ongoing), 3 are Spring shed Watershed Development Projects and 2 are Integrated Watershed Management Schemes (IWMS) in the State involving grant assistance of Rs.379.14 Cr.

(d) Integrated Watershed development for Rehabilitation of Degraded soils and Climate Change Adaptation: Designed to address issues of soil and water conservation & other issues climate proofing of completed watershed projects under NABARD-KfW Soil Health Project, 30 projects in 12 districts have been sanctioned and have completed implementation in the state with financial assistance of Rs.14.18 Cr.

(e) Sustainable Development Plan (SDP) in completed watershed projects: In order to enable the VWCs to function as vibrant and sustainable field level institutions for natural resources management and improving the livelihoods of watershed community after the completion of the project, the above programme has been formulated by NABARD defining the roles and responsibilities of the VWCs and their capacity building, extension, technology transfer, financial inclusion needs convergence of institutional credit, etc., during and in the post watershed implementation period and post withdrawal of the PFA from the project area. The programme has been implemented with NABARD support in 50 completed watershed projects in the State with financial support of Rs.4.96 cr.

(f) Climate Change: NABARD is the National Implementing Entity (NIE) for Green Climate Fund (GCF), National Adaptation Fund for Climate Change (NAFCC) and Adaptation Fund of United Nations Framework for Climate Change (AF-UNFCC) & others. One project viz. Conservation and Management of Indigenous cattle & sheep in the wake of Climate Change in Karnataka has been sanctioned by GoI under NAFCC with a total outlay of Rs.18.10 Cr against which Rs.18.10Cr has been released.

10.3.6.6. Information Technology in Cooperative Banks:

Cooperative Banks have to take more initiatives in the states to sustain in the current banking scenario with a view to compete with emerging new banks with latest technology solution. Accordingly, with the assistance and guidance of NABARD, all the Rural Cooperative Banks (RCBs) in the State implemented their Core Banking Solutions by the end of 2014 and covered all the KCC accounts with RuPaycards. All 21 DCCBs and KStCB has accorded approval for implementation of PFMS i.e. Public Financial Management System, 18 DCCBs are live on PFMS platform which will enable cooperative Banks to transfer funds to beneficiary account directly from GoI.

During the last two years, sanction accorded for 1365 micro-ATMs & 1208 PoS/mPoS machines which may be utilized to enable a true digital environment in the rural areas of the State. NABARD under Financial Inclusion Fund has also accorded sanction for 29 Demonstration Vans in various districts for doorstep delivery of Banking Technology, for onboarding to Positive Pay System, BBPS and Green PIN facility, capacity building of 18120 BC/BFs etc.

10.3.6.7. Production Credit for Short Term (Seasonal Agricultural Operations)

In the wake of the COVID-19 pandemic, a special liquidity facility (SLF) to RRBs and Cooperative Banks with a view to ensure unhindered flow of credit from banks to farmers to carry out their agricultural operations smoothly. During the year 2021-22, Rs.1865 Cr was disbursed to Cooperatives and RRBs under SLF.

(i) Short Term Credit for purposes other than crop production: NABARD extends Short Term (Others) refinance to Cooperative Banks and RRBs to meet other short term credit requirements of farmers other than crop production such as marketing of crops, fisheries, industrial cooperatives, working capital loans for economic activities.

(ii) Interest Subvention Scheme of the Government of India: GoI provides 2% interest subvention to banks for extending crop loan out of own funds at 7% p.a. upto Rs.3.00 lakh per borrower. The GoI has introduced Modified Interest Subvention Scheme(MISS) for the year 2022-23 at 1.5 % interest subvention to banks for extending crop loan out of own funds at 7% p.a. up to Rs.3.00 lakh per borrower. Further, GOI is in the process of development of integrated portal for KCC-ISS under the MISS.

(iii) Progress under Kisan Credit Card Scheme in Karnataka

Name of the Agency	No. of live KCCs as on 30.09.2022	Percentage
Scheduled Commercial Banks	1226481	27.06%
RRBs	712651	15.73%
Cooperative Banks	2592392	57.21%
Grand Total	4531524	

10.3.6.8. Investment Credit for Agriculture:

(i) Resources for Capital formation / Term Lending in Agriculture: NABARD has been supplementing the resources of banks and other eligible agencies by refinancing the credit extended by them for capital formation in agriculture and allied activities. The agency-wise details of refinance for term loans disbursed in Karnataka during the last 5 years were as under.

(Rs. in crore)

Agency/ Year	2017-18	2018-19	2019-20	2020-21	2021-22
Comml. Banks	2742.32	5745.46	2,204.62	3,226.23	3584.04
Coop. Banks/ KSCARDB	1556.33	1387.29	1,748.62	1,745.01	1841.83
RRBs	1238.66	1520.27	2,064.79	1,916.20	1452.83
NBFC/NBFC-MFI	892.53	1468.55	795.00	1078.01	1188.73
Total	6429.84	10121.57	6813.03	7965.45	8067.43

(ii) Special Refinance Schemes of NABARD

a) Special Refinance Scheme for Cooperative Banks : Transformation of Primary Agriculture Cooperative Society (PACS) as Multi-Service Centre (MSC): Under this facility, NABARD has sanctioned 1085 projects to various PACS in Karnataka with financial outlay of Rs.461.22Cr and loan amount of Rs.376.39 Cr.

b) Special Refinance Scheme for promoting Micro Food Processing Enterprises: NABARD will provide concessional refinance @4% to all eligible FIs i.e. CBs, SFBs, RRBs and DCCBs to encourage banks to lend micro food processing activities and create sustainable livelihood.

c) Schematic Refinance for Water, Sanitation and Hygiene (WASH): NABARD provides concessional refinance @5.15 % per annum at quarterly interest rates to Scheduled Commercial Banks, Small Finance Banks, RRBs and State Cooperative Banks and @6.60% per annum at quarterly interest rates to NBFCs & NBFC-mFIs for financing WASH related activities such as construction of toilets/ twin-pit toilets, etc.

10.3.6.9. Off farm Sector Initiatives under Gramya Vikas Nidhi (GVN)

i) Marketing Infrastructure : Rural Haats and Marts: Setting up of rural haats and marts were supported in the State since more than five years. Almost 45 rural marts and 28 rural haats have been sanctioned in the State with a total investment of Rs.422 lakh including current year's sanctions.

ii) Skill Development: Through this programme, NABARD has aimed at bringing in collectivization of weavers/artisans through skilling/up skilling /re-skilling. With a cumulative investment of Rs.216 lakh in this sector since last five years, NABARD, Karnataka, have created more than 3500 skilled youth/women in various fields' viz., weaving, computer basic skills, repair and maintenance of farm machineries, health Care, tailoring, banking, financial services, insurance, para-medical services, etc. During

2021-22 a mini off farm producer organization is being established with the trainees under Aari embroidery in Dharwad District, for which NABARD has extended Rs.49.97 lakh under OFPO scheme.

iii) Collectivization - Off Farm Producer Organization (OFPO): In last 2 years, NABARD has extended grant support of Rs.442.97 lakh for formation of 5 OFPOs covering 1550 artisans in the areas of Handloom – Fabric Weaving and Natural Dye, Handicrafts – Kasuti Work, Channapatna Toys, Kolhapuri Leather Footwear and Aari embroidery in Shimoga, Dharwad, Ramanagara, Belgaum.

iv) Infrastructure through DPR Scheme: NABARD have sanctioned two projects under this scheme with a total financial assistance of Rs.41.76 lakh in Gulbarga and Uttara Kannada to promote location specific developmental projects in the off-farm sector.

v) Interventions under Geographical Indication (GI): Aims to provide end-to-end support to facilitate pre-registration as well as post-registration activities for Geographical Indications, as an impact, 150 authorized users and 10 registered users in Ilkal sarees and authorize user’s registration in mattugulla brinjal have been initiated. NABARD has sanctioned Rs.5.55 lakh during 2021-22, to create website for GI tagged Udupi sarees and for registration of Kari Ishad Mango, from Uttara Kannada District.

10.3.7 State Term Lending Institutions:

10.3.7.1. Industrial Finance:

Karnataka State Financial Corporation (KSFC) is a State Level Financial Institution established by the State Government in the year 1959 under the provisions of SFCs Act, 1951 to cater to the long-term financial needs of Micro, Small & Medium Enterprises (MSMEs) in the State of Karnataka. Details of Sanctions and Disbursements are shown in the **Table 10.37**.

Table 10.37: Details of Sanctions and Disbursements made by KSFC (Rs. in Crore)

Particulars	2019-20	2020-21	2021-22	2022-23 (30.11.2022)
Sanctions	667.81	401.66	493.25	306.27
Disbursement	727.9	432.96	386.46	256.75

Source: KSFC

10.3.7.2. Karnataka State Industrial and Infrastructure Development Corporation (KSIIDC)

KSIIDC, established in 1964, has been greatly instrumental in the industrialization of the State, especially in the large and medium sector. KSIIDC has stopped financial lending activity since October 2002 onwards. At present, recovery of the past lending/advances and loans and disinvestment of Equity are the main activity. However, certain Investments as per the directions of Government of Karnataka are being made from time to time. KSIIDC continued its proactive role in the promotion of infrastructure projects on Public Private Partnership model and its role as Nodal Agency for Bangalore International Airport Project. Duly noting the initiatives taken up by KSIIDC in the infrastructure sector,

the name was changed to “Karnataka State Industrial and Infrastructure Development Corporation Limited” with effect from November 22, 2010.

10.3.7.3. Non-Performing Assets (NPA) in Banks:

The category wise NPA is shown in the **Table 10.38**.

Table 10.38. NPA across the Type of Banks

(Rs. in Crore)

Type of Banks	As on 30/9/2021		As on 30/9/2022	
	A/Cs	Amount	A/Cs	Amount
Commercial	1468284	49083.60	1479733	47582.68
RRBs	358317	5534.99	329322	5408.22
Cooperatives/KSFC	46684	1718.82	27882	3249.98
TOTAL	1873285	56337.41	1836937	56240.88

Source: SLBC (Agenda Notes of 159th Meeting: page no.175-176), Karnataka.

10.3.7.4. Co-operative Credit

The Cooperative credit system in Karnataka has its own place in the credit delivery to rural and urban areas. In Karnataka two types of Cooperative Credit Institutions are functioning, one is looking after short term and medium term credit and another looking after credit needs of long term.

a) Short term and Medium term Credit Co-operative Structure (STCCS): The Karnataka State Cooperative Apex Bank through its affiliated District Central Cooperative Bank (DCCB) and Primary Agriculture Cooperative Societies (PACS) at the village level extends short term credit to the farmers and others. The total number of DCCBs is 21 with 849 branches. There are 5878 PACS functioning in the state. During 2021-22 all the 21 DCCBs in the State have shown profits. Financial Status of DCCB details is as shown in the **Table 10.39**.

Table 10.39 : Consolidated Financial Status of DCCB

(Rs. in Crore)

Particulars	2019-20	2020-21	2022-22	2022-23 (Sept)
No of DCCBs	21	21	21	21
Total share capital	1636.12	1989.13	1902.25	2257.17
States' share capital	25.04	30.49	32.50	97.67
Share of state share capital %	1.53	1.53	1.71	4.33
Deposits	28093.45	32323.85	36993.17	35127.25
Borrowings	10070.72	12559.30	11619.69	14803.55
Loans & Advances Outstanding	28492.57	33478.12	33631.44	40532.00
Banks showing profit	20	21	21	21

Source: Co-operative Society.

b) Long Term Credit Cooperative Credit Structure (LTCCS): There are 177 Agriculture and Rural Development Banks (KSCARD) that caters to Long Term Credits.

c) Loan Disbursement: The Performance under terms wise is shown in the **Table 10.40**.

Table 10.40: Performance of Short Term, Medium Term and Long-Term Credit

(Rs. in Crore)

Year	Type of Loan	Target	Achievement	Percent
2021-22	Short term	19370.00	19396.24	100.14
	Medium term	980.00	1128.35	115.14
	Long term	460.00	447.20	97.22
2022-23 (November)	Short term	22337.00	12697.77	56.85
	Medium term	1131.00	630.35	55.73
	Long term	532.00	151.91	28.55

Source: Co-operative Society

d) Recovery of Loans: The Comparative position of recovery of Short term, Medium term and Long term loans under the Cooperative Credit System in the State is shown in the **Table 10.41**.

Table 10.41: Recovery of loans in Co-operative Sector

(In Percentage)

Type of loan	2018-19	2019-20	2020-21	2021-22	2022-23 (Nov) (Tentative)
Short term	90.93	92.00	96.23	96.65	93.47
Medium term	82.00	78.32	90.44	88.25	71.28
Long term	55.23	40.02	69.59	58.04	22.00

e) Subsidized Agriculture loans to farmers: During the period 2014-15 to 2021-22 Short Term loan of up to Rs.3 lakhs were disbursed at 0% and MT and LT loans up to Rs.10.00 lakhs are disbursed at 3%. During 2019-20, 2020-21, 2021-22, Rs.1028.35 Cr, Rs.993.33 Cr, Rs.1022.90 Cr has been reimbursed to 2390822, 2350433, 2481359 farmers respectively. During the year 2022-23 a budget provision of Rs.1078.02 Cr was made. And till now, an amount of Rs.506.84 Cr has been released to Co-operative Institutions on behalf of 1292496 farmers.

f) Interest subsidy to Self Help Groups (SHGs): The scheme of advancing loans to SHGs in Karnataka at 4 % is being implemented from 01-04-2007. Since the year 2017-18 to 2020-21 Women SHGs are lending at the net rate of 0% and Men SHGs at 4% by adopting NRLM/ NULM Scheme. During the year 2021-22 Kayaka scheme has been merged with SHGs scheme and loans up to Rs.5 lakhs are being lent to women groups at 0% and men groups at 4%. Loans from Rs.5 lakhs to Rs.10 lakhs for self-employment are being lent at 4% of interest rate.

A loan of Rs.1234.82Cr in 2019-20, for 37479 groups has been provided and Rs.83.30Cr of interest subsidy has been released. Similarly, in 2020-21 Rs.1201.68 Cr of loans to 33713 groups and Rs.86.50 Cr of interest subsidy and in 2021-22 Rs.1436.51 Cr to 35256 groups and Rs.87.30 Cr of interest subsidy has been released. During the year 2022-23, till November 23797 groups have been provided with Rs.975.54 Cr of loan and 87258 groups have Rs.2033.27 Cr of loan outstanding. In this year budget provision of Rs.96.61 Cr has been provided and as on November 2022, Rs.16.52 Cr of interest subsidy has been released to 27424 groups.

g) Rs. 1 lakh Loan Waiver Scheme per Family -2018: Crop loan up to Rs.1,00,000 per family was waived for the farmers who had loan outstanding as on 10-7-2018 in Primary Agriculture Credit Cooperative Societies, DCC banks, PCARD banks and LAMPS. A maximum of Rs. 1.00 lakh of benefit was given to each family, excluding the salary earners and pensioners with more than 20000 salary per month and income tax assesses. It was estimated Rs. 8480 Cr of loan waiver will benefit 19.14 lakhs farmers. Government released Rs.2600 Cr in 2018-19, Rs.5092.32 in 2019-20 and Rs.604.15 Cr in 2020-21 totaling Rs.7987.47 Cr to 17.06 lakhs farmers. An amount of Rs.167.51 Cr is yet to be released to 0.31 lakh farmers and balance 0.13 lakhs farmers are yet to be identified under the scheme.

h) “BadavaraBhandhu” Scheme: Incepted in 2018-19, BadavaraBhandhu scheme provides loans of Rs.10000 at 0% interest to street vendors. In 2020-21, Rs.8.24 Cr loan was disbursed to 5219 street vendors. The loan outstanding as on 29-3-2021 has been waived and Rs.7.57 Cr has been released to 10,897 street vendors.

i) Measures during Covid 19 period: Extension of payment of loan (moratorium) instalment period during Covid 19 period 01.03.2021 to 30.06.2021 for 617805 farmers and 65500 Self Help groups was provided.

j) FRUITS software developed by e-governance in cooperative societies: To avoid the farmers visiting Sub registrar office to create charge /mortgage on RTCs at the time of availing agricultural loans and releasing deeds at the time of repayment of loans in PACS, DCC banks and PCARD banks, has been completely made online from 1-4-2022 through FRUITS software.

k) Central Govt Schemes

- i. **AthmaNirbar Bharath- Central Government Scheme:** Under the NABARD scheme refinance is being provided at the rate of 4% to convert PACS as Multi Service Centers. Under the Central Scheme of Agri Infra Fund 3% interest subsidy is being provided by central govt. In Karnataka both the schemes have been converged and target was fixed to cover 1549 PACS. During the year 2021-22, 1043 PACS have submitted applications and NABARD has sanctioned Rs.302.31 Cr to DCC Banks lend to 873 PACS. Till November end, DCC banks have disbursed Rs.158.00 Cr to 706 PACS.
- ii. **Computerization of Primary Agricultural Cooperative Societies:** Initiatives has been taken to computerize 6040 Primary Agricultural Cooperative Societies with the total project cost of Rs.236 Cr at Rs.3.91 lakh per PACS to give farmers and rural customers better services. The software and training cost of Rs.43 Cr will be borne by center and NABARD, the remaining cost of Rs.193 Cr will be borne by Centre and State in the ratio of 60:40. The state government's portion will be Rs.77 Cr.

- iii. **Entry of Cooperative society's information in National Cooperative data base software:** In this software, information of 6040 PACS, 16656 milk cooperative societies and 682 fisheries cooperative societies are being entered in the first phase.

Achievements and Initiatives of NABARD in Karnataka:

National Bank for Agriculture and Rural Development (NABARD) has been playing a lead role in the socio-economic development of the State of Karnataka through various business, promotional, institutional and policy interventions. Following are major achievements and Initiatives of NABARD in Karnataka:

- ❑ **Refinance Assistance to Banks:** NABARD provides refinance to the cooperative banks and RRBs. During 2021-22 provided financial support of Rs.22943 Cr., which is 13% over and above Rs. 20251 Cr during 2020-21. As on 15.01.23, Rs.15866.48 Cr has been extended for rural lending to banks and other financial institutions and Rs.11059 Cr was disbursed under Short term and Rs.4807.48 under Long term refinance.
- ❑ **Infrastructure Support to State Govt.:** Under RIDF, a project worth Rs.2084.21 Cr was sanctioned and Rs.1354.51 Cr was disbursed during 2021-22 to State Government for developing rural infrastructure. The cumulative sanctions and disbursement for Karnataka under RIDF as on 10.01.2023 are to the tune of Rs.18156.92 Cr and Rs.14206.88 Cr respectively for 43792 projects.
- ❑ **Piloting eKCC:** The proposed e-KCC portal being developed by NABARD could be linked to FRUITS portal to enable bankers to verify the data filled in by the farmers, which would help in de-duplication of the beneficiaries in availing bank loan/interest subvention/ insurance.
- ❑ **Piloting Agri Value Chain Financing:** NABARD Karnataka has started a pilot on "Agri Value Chain Financing at Pavagada Taluk in Tumkur district on mango/ vegetable value chain along with IFHD and SBI, which is in the final stages of grounding.
- ❑ **Integrated Farming System:** NABARD has extended financial assistance of Rs 25.00 lakh to UAS, Dharwad for Demonstration of Integrated Farming System practices.
- ❑ **JLG – Farm Pond Project:** NABARD has sanctioned grant assistance @ Rs.4000/- per JLG for formation and credit linkage of 1000 JLGs, which would further take up the activity of farm pond construction. Under the project, 700 Farm ponds have been constructed so far in Dharwad, Haveri, Gadag and Belagavi districts by forming 138 JLGs.
- ❑ **Support to Farmer Producer Organizations (FPOs):** Special focus has been given for promotion and nurturing of FPOs. Around 373 FPOs have been promoted by NABARD covering over 1 lakh plus farmers as members.
- ❑ **Support to Cooperatives in the State:** A major initiative to strengthen the cooperatives is computerization of Primary Agricultural Credit Societies (PACS), which will improve the efficiency of these grass root level institutions in extending seamless services to their farmer members. In the first phase, 5491 PACS of Karnataka have been identified for computerization.
- ❑ **Credit Potential for Priority Sector Lending for FY 2023-24:** NABARD prepares district wise Potential Linked Credit Plans (PLPs) which is a step towards decentralized credit

planning with the basic objective of mapping the potential for the development of priority sector with institutional credit. An aggregate credit potential of Rs.358763 Cr (sector wise: Agriculture-49.90%, Micro, Small and Medium Enterprises-37.59%, Export Credit-1.61%, Education-1.72%, Housing-7.97%, Renewable Energy-0.36%, Social Infrastructure involving Bank Credit-0.85%) has been projected for FY 2023-24 for the priority sector in the State.

Achievements of Co-operative Sector:

- ❑ A target has been fixed to lend 3 lakh new farmers in the present year and up to November end, 1.31 lakh new farmers have been lent Rs.1412.77 Cr. Efforts have been made to extend agricultural loan to all eligible farmers in order to increase in agricultural loan ratio to GDP from agricultural sector. Co-operative institutions have disbursed working capital loans of Rs.109.43 Cr to 44995 dairy farmers and Rs.4.28 Cr to 428 fishermen for marine fishery purpose through KCC cards.
- ❑ Under the Agri Infra Fund scheme of AtmaNirbhar Scheme of Central Government Rs. 312.74 Cr of loan has been sanctioned at 4% interest rate to 895 PACS through NABARD to create post-harvest facility to farmers and Rs.158.02 Cr of loan has been disbursed to 706 PACS by DCC banks. Under central sponsored scheme it has been intended to computerize 6040 Primary Agricultural Cooperative Societies with the total project cost of Rs.236 Cr at Rs.3.91 lakhs per PACS to give farmers and rural customers better services.
- ❑ Ministry of Cooperation, Central Govt with the objective of 'Sahakar se Samridhi' has developed National cooperative data base software to capture the information of all cooperative societies in order to identify the gaps and to tap the potentials in cooperative sector. In this software information of 6040 PACS, 16656 milk cooperative societies and 682 fisheries cooperative societies are being entered in the first phase.

Challenges for Co-operative Sector

- ❑ Though cooperative banks could cover 38 % of the farmers in the state, average short term agricultural loan to farmers from cooperative institutions have stood at Rs.71096 per farmer, much lesser than commercial banks due to the fund availability to cooperative banks.
- ❑ DCC banks deposit position is weak compared to commercial banks as these banks are not scheduled banks and not able to acquire the new digital technology and offer better services to customers.

WAY FORWARD

For achieving \$1 trillion GDP

- ❑ Out of 122 villages with the population of more than 3000, 18 villages are already covered by brick-and-mortar branches and remaining 104 villages are covered by BCs. Out of these 104 villages, 52 villages are covered by IPPB centers out of which 8 or not staffed and IPPB to take steps to make them fully operational. In the remaining 52 villages, all member banks are advised to explore the possibility of opening of brick-and-mortar branches. However as per RBI guidelines all the above 122 villages are covered by banking outlets.

- ❑ Pro active measures may also be taken to increase the Bank credit to GSDP ratio which is <50% at present to more than 50%.

While the existing business and promotional operations will continue, the focus areas for NABARD in the coming years are as follows:

- ❑ Launch of eKCC portal integration with FRUITS portal of GoK. Strengthening Agri-Value Chain infrastructure by financing & PACs through Central Scheme on PACS computerization. Targeted Infrastructure Development in Tier 3 & 4 towns.
- ❑ Strengthening farmer institutions like SHG Federations, FPOs/OFPOs, PACS etc. in terms of governance, business diversification and profitability
- ❑ Skill development, ICT based innovations in agriculture & Natural Resource Management.
- ❑ NABARD can increase the refinance facility from present 60% to 75% to DCC Banks operating in back ward district and drought prone districts in order to increase the per capita crop loan to farmers of Cooperative institutions.
- ❑ RBI may consider PACS as small savings banks and allow them to do banking facility to rural poor as given to post offices.
- ❑ The credit offered to farmers from Co-operative institutions is many a times limited due to their limited financial resources, to alleviate the same the co-operative set up can think of ceding paripassu charges in favour of banks which can supplement the financial needs of the farmers adequately.

APPENDIX 10.1

Scheme wise progress of Public works Department
as on January 2023 (AVALOKANA)

(Rs. in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Maintenance of High Court Building	2.00	2.00	0.00
Chief Engineer (C & B South), Bangalore	302.58	305.89	237.95
Chief Engineer (C & B North), Dharwad	0.38	0.27	0.22
Supervision (C& B South)	0.59	4.02	1.89
Execution (C & B South)	13.54	14.56	10.45
Execution (C & B North)	12.33	9.43	7.41
e-Goverance in PWD	0.25	0.04	0.00
Chief Engineer (C&B), Kalaburagi Division	0.22	0.15	0.05
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	7.91	0.00	0.00
Execution (C & B), North East Zone(Kalburgi)	10.40	7.12	6.38
Quality Assurance Unit	26.06	20.12	20.30
Chief Engineer (C & B Central), Shivamogga	2.87	2.49	1.71
Legislative Assembly Building Works	3.00	2.25	2.19
Legislative Council Building Works	0.35	0.14	0.12
Vidhana Soudha, VikasaSoudha, MS Building, VV Tower Bldg and Suvarna Soudha Belgaum -Maintenance Works	22.00	16.77	12.97
Repairs, Maintenance & Minor Alterations to Various Departmental Buildings	250.00	192.76	173.99
Administration of Sand Mining	0.90	0.68	0.60
Repairs to PWD Quarters and Judicial Quarters	125.00	94.79	86.01
Chief Engineer National Highways	9.32	9.11	6.50
Repairs and Carriages	1.80	1.50	1.27
Execution/SLAO and Ordinary Repairs	30.26	29.94	22.51
Plan Monitoring Unit - State Highway Development Project	7.73	7.49	5.76
Planning and Road Asset Management Center [PRAMC]	3.68	3.96	3.01
Maintenance of State Highway Bridges	65.00	51.30	39.99
State Highway Maintenance	505.00	377.90	338.44
State Highway - Road Safety Works	75.00	56.25	55.45
Karnataka State Highway Improvement Project (KSHIP) - Establishment	15.41	15.75	12.50
District and Other Road Bridges	57.00	44.67	35.68
Maintenance of District & Other Roads under C.M's Rural Road Development Fund	323.42	246.61	227.44

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
District & Other Roads Maintenance	380.00	289.38	251.91
District and Other Roads - Road Safety Works	60.00	45.00	43.43
KRDCL-Payment of Government Guarantee Commission	5.72	0.00	0.00
Departmental Buildings	300.00	119.91	109.01
Residential Buildings	80.00	20.23	19.04
Major District Road - Bridges	150.00	106.31	99.07
State Highways Bridges	40.00	35.02	24.26
State Highways Road Works	500.00	271.50	247.77
State Highway Development Project	1400.00	430.00	1319.83
Karnataka State Highway Improvement Project (KSHIP)-II -WB and ADB	869.00	347.07	434.47
Karnataka State Highways Improvement Project KSHIP -III (ADB 2nd Loan) - EAP	1300.00	879.95	350.00
Land Acquisition Cost- State Highway	100.00	183.26	43.46
District & Other Roads	1695.00	1376.31	1214.77
MDR Works Financed from NABARD	100.00	16.34	13.48
Roads Financed from Central Road Fund Allocations	500.00	465.46	464.80
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	4.09	1.79	1.45
Land Acquisition Cost -District and Other Roads	50.00	27.48	13.53
Road Safety Works and Barricading along the Nalas	30.00	22.50	22.50
Karnataka Road Development Corporation Limited	450.00	427.60	262.50
Government Architect & Other Public Works Offices	3.11	3.15	2.25
CSS - Court Buildings construction of Residential Buildings	105.00	78.75	78.75
CSS - Court Buildings	70.00	52.99	52.49
Total	10065.92	6717.96	6379.56

Appendix 10.2

Scheme wise progress of Transport Department as on January 2023 (AVALOKANA)

(Rs. in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	4.91	4.91	4.71
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	3.52	1.76	1.28
Commissioner for Transport	26.55	21.60	18.61
State Transport Authority	0.95	0.90	0.67
Karnataka State Transport Appellate Tribunal	0.84	1.07	0.75
Implementation of Measures to Control Air Pollution and Other Activities	25.00	6.34	5.99
Regional Transport Authority	83.66	78.67	65.36
Payments under the Karnataka Guarantee of Services Act	0.50	0.00	0.00
Transport Welfare and Road Safety	300.00	146.04	23.75
Inspection of Motor Vehicles -Administration & Maintenance	20.98	16.43	15.16
Free Bus Pass Facility to Freedom Fighters	5.21	1.30	1.30
Bangalore Metropolitan Transport Corporation	830.59	681.56	667.65
North West Karnataka Regional Transport Corporation	596.91	466.87	129.34
North East Karnataka Regional Transport Corporation	352.96	258.53	75.74
Free Bus Travel Facility to the Blind	26.83	6.71	6.71
Free Bus Travel Facility to the Handicapped	26.97	6.74	6.74
Free Bus Pass To Widows Of Freedom Fighters	0.07	0.02	0.02
Concessional Bus Travel Facility to Senior Citizens	48.56	12.14	12.34
Subsidy Towards Students & Other Concessions Extended by KSRTC	723.53	538.62	172.86
Issue of Free Bus Passes to the dependents of Martyrs	2.01	0.50	0.50
Free Bus Travel Facility to Endosulphan affected Victims	10.72	2.68	2.68
Free Bus Pass Facility to Goa Activists	2.79	0.70	0.70
RTO Building and Test Driving Track	15.00	3.18	1.70
Purchase of Land for Construction of RTOs	1.00	0.00	0.00
Purchase of New Buses	200.00	0.00	0.00
Karnataka State Road Transport Corporation	30.00	22.19	22.74
North West Karnataka Road Transport Corporation	25.00	18.50	10.57
Bangalore Metropolitan Transport Corporation	138.50	77.73	60.23
North East Karnataka Road Transport Corporation	15.00	11.39	11.11
Scholarship to Children of Yellow Board Taxi Drivers	50.00	0.00	0.00
	3568.56	2387.08	1319.20

Appendix 10.3
Details of Financial performance statistics of KSRTC, BMTc, NwKRTC and KKRtC (in crores)

SI No	Item	KSRTC		% Change (upto Nov)	BMTc		% Change in 2022-23 to 2021-22 (upto Nov)	NwKRTC		% Variation	KKRtC		% Var
		2021-22 up to 30-11-21	2022-23 up to 30-11-22		2021-22 up to 30-11-21	2022-23 up to 30-11-22		2021-22 (up to 30-11-2021)	2022-23 (up to 30-11-2022)		2021-22 up to 30-11-21	2022-23 up to 30-11-22	
1	Total receipts	1445.47	2874.54	+98.9	--	--	--	833.82	1684.16	102.0	811.88	1403.36	72.9
2	Total expenses (Excl. taxes)	--	--	--	1222.74	1674.64	37	--	--	--	975.06	1348.80	38.13
	a) Operating expenses	1717.30	2731.65	591	1201.22	1706.32	42.0	1066.79	1547.51	45.1	738.93	1049.80	42.1
	b) Non-Operating expenses	49.60	57.30	15.5	21.52	27.88	29.6	44.69	30.53	-31.7	236.13	299.00	26.6
3	Profit before taxes	-321.43	85.59	--	--	--	--	-277.66	106.12	--	-163.18	54.56	-133.4
4	Total taxes				0.00	59.56	-	--	--	--	0.00	57.18	-
	a) Passenger tax	--	--	--	0.00	0.00	0.00	0.00	0.00	--	0.00	0.00	0.00
	b) Motor vehicle & other taxes	62.99	122.17	--	0.00	59.56	-	0.00	61.37	0.0	0.00	57.18	-
5	Total expenses	1829.89	2911.12	+591	1222.74	1734.20	41.8	1111.48	1639.41	47.5	975.06	1405.98	44.2
6	Net profit/loss	-384.42	-36.58	--	--	--	--	-277.66	44.75	--	-163.18	-2.62	-98.4
7	Prior period adjustment (Profit / Loss)	--		--	--	--	--	---	---	--	0.00	0.00	0.00
8	Total Profit/Loss	-384.42	-36.58	--	-188.65	-305.12	116.47	-277.66	44.75	--	-163.18	-2.62	-98.4

Source: KSRTC, BMTc, NwKRTC and KKRtC

Appendix 10.4

Scheme wise progress of BMRCL as on January 2023 (AVALOKANA)

(Rs. in crores)

Scheme Name	RE	OB	Release	Total Expenditure
Cash loss of BMRCL	233.80	0.00	233.80	234.95
Reimbursement of Taxes & Duties to BMRCL	300.00	0.00	300.00	300.00
Equity Investment (BMRCL)	0.00	1005.93	0.00	1134.71
Loans for BMRCL	8.22	564.75	8.22	722.79
Support to BMRCL for Debt Repayment	500.00	0.00	250.00	725.22
Total	1042.02	1570.68	792.02	3117.67

Note : Expenditure amount met from loan fund hence it is more than the release and OB.

Appendix 10.5

Scheme wise progress of Infrastructure Development and ports and Inland water Transport Department as on January 2023 (AVALOKANA)

(Rs in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Karnataka Maritime Board	31.42	12.04	11.55
Capital Expenses of Karnataka Maritime Board	14.30	10.17	8.33
PPP Developmental Activities	2.00	0.50	0.50
Development of Minor Airports	4.61	0.43	0.00
Regional Air Connectivity	47.00	21.47	21.48
Sea Erosion Control Works	10.00	7.50	7.48
Development of Minor Air Ports	150.00	325.00	260.00
Karnataka Viability Gap	5.00	0.00	0.00
KRIDE - ROB/RUB Projects	75.00	24.70	3.00
Cost Sharing Railway Projects	500.00	527.50	431.50
Share Capital to Konkan Railways	73.50	0.00	0.00
CSS - Sagarmala Project -Dredging Works and Break Water Works	50.00	6.88	6.61
Total	962.83	936.19	750.45

11.1 HEALTH AND FAMILY WELFARE

Karnataka has made significant progress in improving the health status of its people in the last few decades. The state has made remarkable progress improving its health infrastructure at different levels in both rural and urban areas. As per SDG India index 3.0-2020-2021 the performance of **Karnataka state is in 6th place** scoring the index of 78, behind Gujarat (86), Maharashtra (83) and Tamil Nadu (81). The outlines of demographic and health scenario of Karnataka state during the past recent years are depicted in below **Table**.

Table 11.1 : Achievement of the demographic and Health indicators

Sl. No.	Indicator	2015	2016	2017	2018	2019	2020	
1	Birth Rate (for 1000 Population)*	17.9	17.6	17.4	17.2	16.9	16.5	
2	Death Rate (for 1000 Population)*	6.6	6.7	6.5	6.3	6.2	6.2	
3	Total fertility rate**	1.8	1.8	1.8	1.8	1.7	1.7	
4	Maternal Mortality Rate (for every 100000 live births)*	97	92	83	69	69	69	
5	Infant Mortality Rate (per 1000 Live births)*	28	24	25	23	21	19	
6	Under-Five Mortality Rate (per 1000 children) *	31	29	28	28	26	21	
7	Eligible Couples protected (%)*	63	63	63	63	63	68.7	
8	Average life expectancy (years)*	Male	67.9	67.9	67.9	67.9	67.9	67.9
		Female	70.9	70.9	70.9	70.9	70.9	70.9

Source: * SRS, ** NFHS

The above table reveals that the progress of the health indicators have been encouraging in the State during the last few years. As per SRS 2020, the death rate is already at a lower level and the birth rate is declining faster. The maternal mortality rate which was 97 in 2015 has been decreased to 69 in 2020 , similarly the infant mortality rate which was 28 in 2015 has been gradually decreased to 19 in 2020. Attempts have been made to remove intra-regional and regional disparities by improving health services.

- ❑ As per the current Sustainable Development Goal (SDG) 2030 Karnataka has to reduce the under 5 Mortality Rate from 28 to <25 but it has already been achieved by the state.
- ❑ The percentage of institutional deliveries is 99.9.

- ❑ Current Neonatal Mortality Rate (NMR) is 14 (SRS 2020). Current goal is to reduce NMR from 18 to <12 according to Sustainable Development Goal (SDG) 2030.
- ❑ The current Early Neonatal Mortality Rate is 11 (SRS 2020).

Health Infrastructure

The State has a wide institutional network providing health services both in urban and rural areas. The primary health infrastructure in rural areas has fulfilled the norms required under the “Minimum Needs Programme” at the aggregate level. 24 district hospitals, 154 Taluka hospitals, 53 other hospitals under health and family welfare, 55 Autonomous teaching hospital, 202 Community health centers, 2396 Primary health centers and 9476 Sub Centers are providing health care facilities in the state as per KAG 2021-22.

Further 31215 private medical establishments are registered under Karnataka Private Medical Establishment Act for providing quality care according to medical ethics by prescribing service quality of which 9871 (32%) are in Bangalore district alone followed by Dharwad 2092 (7%) and Dakshina Kannada 1980 (6%).

Amount allocated in the budget under various schemes to provide health facilities for 2022-23 is Rs.9614.00 crores of which productive allocation is Rs. 5808.81 crores. An amount of release is Rs.6397.20 crores of which productive release is Rs. 3014.16 crores. The expenditure incurred upto January 2023 is Rs. 6706.34 crores of which productive expenditure is Rs. 3122.49 crores. Details are furnished in below table.

Table 11.2 : Scheme wise progress upto January 2022-23

(Rs. in crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Primary Health Centres	810.46	709.02	815.98
District Establishment	74.31	62.97	75.19
Opening and Maintenance of AYUSH Clinics/ Hospitals and Offices	152.12	128.39	143.18
Maintenance of Health Buildings includes AYUSH	47.72	36.71	14.88
Mobile Health Units	0.39	0.39	0.42
Strengthening of PHCs - Maternity Homes	15.55	14.65	6.45
National Anti - Malaria Programme	102.66	84.05	96.42
Repairs to Hospital Equipments	5.92	1.96	0.80
Telephone Charges (includes AYUSH)	5.12	3.86	0.89
Primary Health Centres (GOI Pattern) (MNP)	626.18	535.32	628.13
Taluk Level Hospitals	6.67	4.12	2.36
Provision for Amulances including X-Ray / other facilities to Taluk Hospitals	6.60	3.07	0.88

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Establishment of Blood Bank	0.10	0.10	0.00
Establishment of Sub Centres (MNP)	26.96	26.57	12.72
Buildings (including AYUSH)	11.63	6.42	0.55
Supplies and Materials	5.03	3.72	0.40
District Family Welfare Bureau	63.11	48.40	55.95
Rural Family Welfare Centres at PHCs	142.99	106.89	124.89
Rural Sub-Centres (Opened Under Family Welfare)	329.89	271.39	316.21
PHCs run by NGO-GiA, Urban Family Welfare run by State Government and State Health Transport Organisation	107.20	100.19	106.45
Supply of Drugs and Syringes and Pulse Polio Immunisation	2.05	0.60	0.41
District Health Office Buildings	12.64	6.67	4.01
Construction of Hospital Buildings-NABARD	41.36	30.00	17.23
Opening and Maintenance of AYUSH Offices, Colleges and Hospitals, Health,IEC and Training	156.76	160.93	106.54
Maintenance, Repairs and Extension of Land and Buildings for AYUSH	2.00	1.54	0.56
AYUSH - Drugs manufacturing Institutions and Drug Testing Laboratories	3.92	4.35	2.50
AYUSH - Cultivation of Medicinal Plants and Karnataka State Medicinal Plants Authority	2.03	2.09	1.00
AYUSH Buildings	10.00	2.66	0.00
Karnataka State Mental Health Authority	1.31	0.66	0.65
Karnataka State Medical Supplies Corporation Limited(KSMSCL)	1.49	0.75	0.37
Procurement of disposable medical materials for COVID-19 through KSMSCL	50.00	0.00	0.00
Health and Family Welfare and other Health Institute building maintenance	25.00	12.50	11.08
Psychiatric Clinics, Hospitals for E.D & TB San, Maj & Dist & Taluk Hospitals and Blood Banks	1212.95	1121.97	1076.53
Shuchi Yojane	49.00	0.00	0.00

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Karnataka Mental Health Programme in Districts	1.00	0.50	0.50
Cochlear Implant Programme	32.00	16.00	6.00
Community Mental Health Programme in all Districts	2.42	0.93	0.45
PPP for Diagnostic Tests and Dialysis Treatment	30.00	15.00	14.40
Director of HFW Services, HE & Training Centre, Engineering Division, Vector Borne Diseases Control and Control of Blindness Programmes	355.73	169.77	110.14
Health Information Help Line	20.00	0.96	0.87
Health -Information, Education and Communication (IEC)	3.00	1.47	1.44
Remuneration to Admin Staff under Integrated Diseases Surveillance Programme	1.83	0.92	0.83
Karnataka State AIDS Prevention Society and Indian Red Cross Society	11.02	5.01	2.65
To improve the health status of Endosulphan affected people	4.39	3.29	2.46
Food Safety Programme and Public Health Institute	20.74	16.13	13.41
Oral Health for BPL Senior Citizens	1.00	0.56	0.40
XV Finance Commission Grants for Strengthening Primary Healthcare Facilities	551.53	0.00	118.46
Ayushman Bharata - Pradhana Mantri Jana Arogya Yojane (PMJAY)	1039.28	779.41	910.55
Aroghya Kavacha	273.35	99.15	107.74
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	3.76	1.41	1.21
State Family Welfare Bureau	5.23	5.51	4.12
Regional Health and Family Welfare Training Centres	13.13	11.58	9.59
Urban Family Welfare Centres run by State Government	5.30	5.23	3.76
Honorarium to ASHA Workers	255.14	250.89	172.48
State Institute of HFW, DTCs and Indian Population Project-Population Centre	20.34	17.10	14.19

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Hospital Construction/Upgradation	450.00	213.64	194.70
Mobile Health Clinic	8.00	0.00	0.00
Buildings - Drug Controller	2.00	0.00	0.00
Karnataka State Medical Supplies Corporation Limited	150.00	0.00	0.00
Mobile Cancer Detection Units	4.50	0.00	0.00
Purchase of Ambulance(Arogya Kavacha-108)	58.00	0.00	0.00
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	18.55	0.00	0.00
Government College of Pharmacy, Bangalore	12.14	10.63	7.59
Drugs Controller	24.68	23.68	16.72
Drugs Testing Laboratory, Bangalore	17.19	15.74	11.75
CSS - AYUSH -National Ayush Mission	17.70	18.29	15.55
CSS - Strengthening of State Drugs Regulatory System Scheme	4.50	4.74	3.47
CSS - Strengthening of State Drugs Regulatory System Scheme	5.21	8.50	5.21
CSS - PM Ayushman Bharat Health Infrastructure Mission	212.93	0.00	0.00
CSS - AYUSH -National Ayush Mission	14.40	15.09	15.09
CSS - National Health Mission	1754.54	1193.16	1316.98
CSS - National Health Mission	60.00	0.00	0.00
CSS - National Health Mission	38.35	0.00	0.00
Grand Total	9614.00	6397.20	6706.34

Achievements

Maternal and Child Health

Karnataka has aimed at controlling population and reducing infant and maternal mortality through strengthening health services. The Child Health Programme comprehensively integrates interventions that improve child survival and addresses factors contributing to Infant and Under 5 Mortality. Low birth weight, malnutrition, nonexclusive breastfeeding (during the first 6 months of life), indoor air pollution, lack of complete immunization, lack of hygiene and many other socio economic factors lead to infant mortality. Childhood Pneumonia continues to be the top most infectious killer among under-five children.

Many initiatives have been taken up like Facility Based Newborn Care (SNCU NBSU NBCC) Home Based Newborn Care, Janani Shishu Suraksha Karyakrama (JSSK), Child Death

Review, Kangaroo Mother Care and Lactation Clinic, Integrated Management of Neonatal & Childhood Illnesses (IMNCI), Intensified Diarrhea Control Fortnight (IDCF), Home Based Care of Young Child (HBYC), Social Awareness & Action to Neutralize Pneumonia Successfully (SAANS), World Breastfeeding Week (WBW) and National Newborn Week (NNW). Details of infant and under 5 mortality Rate from 2011-2020 are furnished below.

Table 11.3 : Details of infant and under 5 mortality Rate

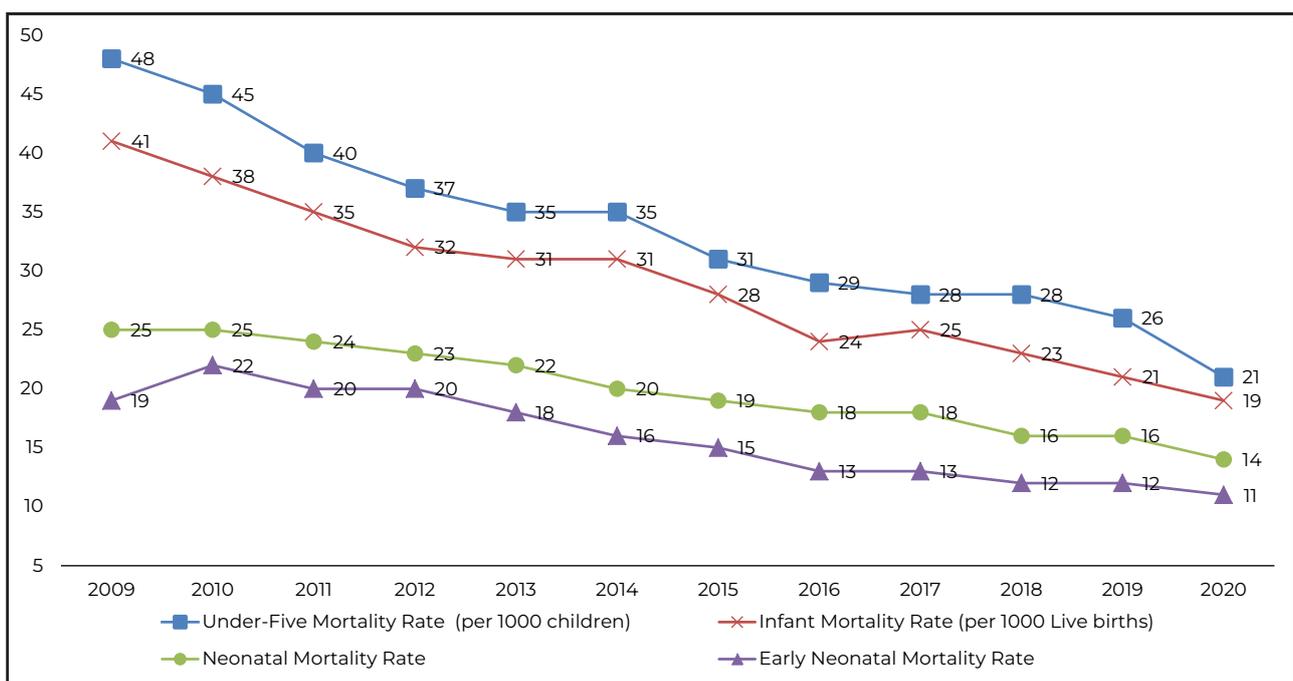
Indicator	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Infant Mortality Rate (per 1000 Live births)	35	32	31	31	28	24	25	23	21	19
Under-Five Mortality Rate (per 1000 children)	40	37	35	35	31	29	28	28	26	21

* Data Source: SRS 2020

From 2011-2020 the IMR is decreased from 35 (2011) to 19 (2020) and Under- Five Mortality Rate decreased from 40 (2011) to 21 (2020)

The trend in Under 5 Mortality Rate, Infant Mortality Rate, Neonatal Mortality Rate and Early Neonatal Mortality Rate from 2009 to 2020 is in decreasing trend and the same is depicted in the graph.

Figure 11.1 : Child Mortality Trend in Karnataka



Family Welfare

The State offers an excellent family welfare Programme operating through the existing health infrastructure. The main objective of the Programme is to provide better health services in general and family planning services in particular to check the rapid growth of population. Though sterilization continues to be the main method of family planning the spacing between the births of two children is also equally emphasized. During 2022-23 (up to November 2022) 1.67 lakhs sterilization conducted as against the target of 4.96 lakhs. The achievement of IUD & PPIUCD is 1.60 lakhs as against the target of 3.59 lakhs. The Percentage of couples protected is 68.2 upto November 2022.

Major Health Sector related initiatives

a) National Health Mission

The NHM seeks to provide Accessible Affordable and Quality Health Care to the rural population especially the vulnerable sections. 11 programs viz RMNCH+A including immunization, National Vector Borne Disease Control Programme (NVBDCP), Revised National Tuberculosis Control Programme (RNTCP), National Leprosy Eradication Programme (NLEP), National Programme for Control of Blindness (NPCB), Integrated Disease Surveillance Project (IDSP), Additional Services to Under National Health Mission, Programme of Pulse Polio, Mission Indradhanush, Health Education Training, Preventive of Deafness and other Programs, Strengthening of public health facilities by providing new constructions additional alternation and renovation are implemented under National Health Mission.

b) National Vector Borne Disease Control Programme (NVBDCP)

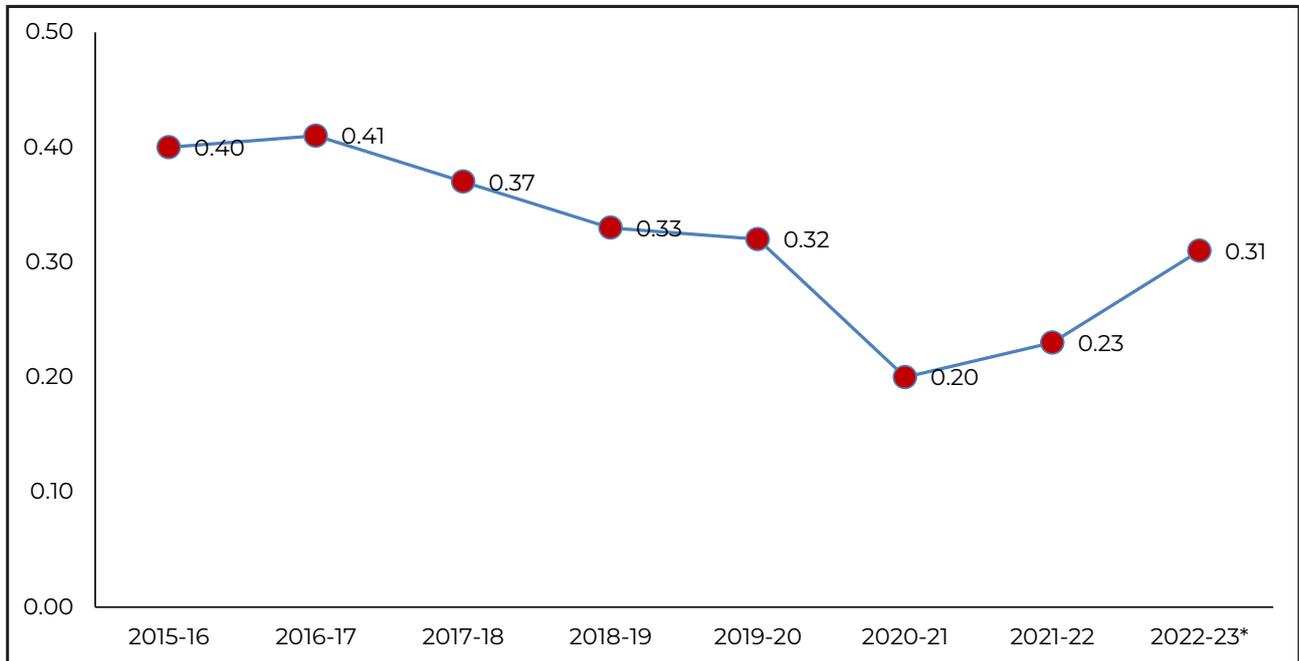
State is implementing the activities for prevention and control of Vector Borne Diseases like Malaria, Filaria, Dengue, Chikungunya and Japanese Encephalitis. During 2022-23 (upto November 2022) 272 cases of Malaria, 8376 dengue, 2002 Chickungunya, 372 AES & 25 JE cases were reported. Only 4 deaths under dengue are reported.

c) National Tuberculosis Control Programme

India is the country with the highest burden of TB. The World Health Organization (WHO) TB statistics gives an estimated incidence figure of 2.61 million cases of TB for India during 2021 as per the global TB report 2022. Around 70,000 to 80,000 TB patients put on treatment annually in Karnataka under NTEP, which aims at universal access and zero TB deaths as a part of end TB strategy. During 2022-23 (upto November 2022) the cases notified are 75756 of which 19285 are from private sector and 56471 cases from public sector. **The Death rate has been decreased from 8% in 2009 to 6% in 2021 despite high HIV – TB burden. The success rates of TB treatment have improved to 82%.**

d) National Leprosy Eradication Programme

The prevalence rate of leprosy is dropped in Karnataka from 40/10000 population in the year 1986 to 0.31/10000 population in November 2022. At present 05 districts have prevalence rate 0.50 to 1 (Ballari, Bidar, Gadag, Koppala & Uttara Kannada) per 10000 population as on November 2022. Leprosy cases under treatment are 2156. The prevalence Rate of Leprosy from 2015-16 to 2022-23 (till Nov 2022) is given in the graph.

Figure 11.2 : Leprosy Prevalence Rate

e) National Programme for Control of Blindness

The aim of the National Program for Control of Blindness is to reduce the prevalence of blindness from 1.4% (1974) to 0.3% by the year 2020 by developing eye care infrastructure human resources, improving accessibility quality of eye care services. The present prevalence rate of blindness is 1.61 in Karnataka as per National Rapid Assessment of blindness survey (2015-2019). During 2022-23 upto 2022 November 1.46 lakh children were detected with refractive error and 3.44 lakh cataract surgeries conducted.

f) The Integrated Disease Surveillance Project (IDSP)

The program aims at establishing a decentralized state-based system of surveillance for communicable diseases, so that timely and effective public health actions can be initiated in response to health challenges in the country at the state and national level.

Other Health Programme Initiatives

Progress achieved under other health programmes during 2022-23 upto November 2022 are as detailed below.

- ❑ The beneficiaries covered under various programmes are Janani Suraksha Yojane -249237, Rashtriya BalSwasthya Karyakram - 1755, Arogya Kavacha - 26038, Dialysis - 327951, Telemedicine – 4758207, Janani Suraksha Vahini – 48308 and Nagu Magu – 55719.
- ❑ Under Ayushman Bharat-Arogya Karnataka – 9.23 lakhs beneficiaries were availed the benefits and an amount of Rs. 746.69 crores has been paid to the network hospitals for treating these beneficiaries.

- ❑ Under Arogya Kavacha at present there is one ambulance for every 85000 population with a total of 711 Ambulances. During 2022-23 (upto Nov 22), 395523 emergency cases were attended as against 528462 Emergency calls received.

Jyothi Sanjeevini Scheme (JSS)

This health assurance scheme is specifically for the benefit of all State Government Employees and their dependents without any cap on the financial limit and the treatment is totally cashless. Eligibility of general ward, semi-private and private wards depends on the basic pay drawn by the employee.

Organ Transplant Scheme

Under the scheme 11 hospitals are empanelled of which 9 are private, 2 are Government. 51 patients benefited (Liver 04, Heart 07, Kidney: 40) availing Rs.230.40 lakhs upto Nov 2022.

Ayushman Bharat-Arogya Karnataka Scheme

Ayushman Bharat - National Health Protection Mission programme renamed as Pradhan Mantri Jan ArogyaYojana (PMJAY) to provide health protection to over 10 Crore poor families identified based on the latest Socio-Economic Caste Census (SECC) data. Since both Arogya Karnataka and Ayushman Bharat have the same goal, scope and similar modalities, hence integrating both the schemes and co-branded name as "Ayushman Bharat-Arogya Karnataka" implemented in an Assurance Mode.

Under the Ayushman Bharat- Arogya Karnataka scheme the enrolment card called AB-ArK Card and an unique AB-Ark ID is generated and provided to the patient at the enrolment center on payment of a fee of Rs.10/-.It is also issued in Common service centers, B1, K1 and Seva Sindhu centers on a payment of Rs. 35/-. Totally 3419 hospitals have been empanelled of which 2940 are government and 479 are private hospitals. 1.22 crores AB-ARK cards are issued and 9.23 lakhs beneficiaries availed the benefits of Rs.746.69 crores.

Cost of treatment to be borne by the Government

For "Eligible Patients" the financial assistance up to Rs.5.00 lakh will be provided for specified simple secondary care, complex secondary health care, tertiary health care and emergency health care per annum, for a family. For "General Patient" the benefit limit is 30% of Government package rates, with overall annual limit of Rs.1.50 lakh per family, per year.

a) AYUSHMAN BHARATH –Health and Wellness Centers

Health and Wellness Centers were launched under the Ayushmana Bharat – Arogya Karnataka scheme to strengthen Comprehensive Primary Health Care (CPHC) services for the community. As on November 2022, the number of upgraded health & wellness centres are 8637 of which 6106 are Rural Sub Centres, 2166 Rural PHCs and 365 Urban Primary Health Centres. . The programme aimed at delivering comprehensive primary health care services to the public at their doorsteps in a qualitative manner like free medicine, free diagnostic facilities etc under 12 package of services.

National Urban Health Mission

National Urban Health Mission aims to improve the health status of the urban poor particularly the slum dwellers and other staged sections by facilitating equitable access to quality health care.

Under NUHM the human resources are out of 3970 posts approved under different Categories by ROP. only 3441 posts are filled up and the remaining 529 posts are vacant, among them 31 Medical officers, 10 Specialists, 238 Junior Health assistants posts are vacant.

HMIS & RCH in Karnataka

1. HMIS (Health Management Information System)

At present in Karnataka around 12,700 health facilities are reporting in HMIS portal. State Health Index Indicators data are taken from HMIS portal.

Table 11.4 : Nurse & Doctor Ratio

(Per 3 Doctors) (1 Lakh Population)

Year	Doctors (Govt.+ NHM)	Staff Nurse (Govt.+ NHM)	Projected Population	Govt. Hosp. Beds	Population Bed Ratio= (No. of Beds*100000)/(Population)	Nurse & Doctor ratio= ((Nurse/Doctors)*(3))
2016-17	5899	11476	67234222	65279	97	5.84
2017-18	6196	11300	68362118	65309	95	5.47
2018-19	6515	11237	69522770	65309	93	5.17
2019-20	6515	11237	70717332	65309	92	5.17
2020-21	8941	14263	71947005	67045	93	4.79
2021-22	7179	14095	71946948	69645	96	5.89

2. RCH Portal

RCH (Reproductive and Child Health) portal is a centralized web based application for early identification and tracking of the individual beneficiary throughout the reproductive lifecycle. Application facilitates to ensure timely delivery of full component of antenatal postnatal & delivery services and tracking of children for complete immunization services. 87.88% of pregnant women and 83.51% of children registered during the year 2022-23 (upto November 2022).

3. Nutrition Rehabilitation Centres (NRCs) in Karnataka

Nutrition Rehabilitation Centres refers to a unit for 'inpatient, centre based' care of children with severe malnutrition (SAM) are usually treated either in facility/hospital based care units without medical complications. In Karnataka a total of 118 Nutrition Rehabilitation Centres are functioning in the State.

Karnataka has a high burden of under nutrition, with 35.4 percent (NFHS-5) of its children stunted, or too short for their age, indicating that they have been undernourished for a long time. 19.5 percent of the state's children are wasted or too thin for their height, which

is a sign of recent food insecurity or illness, 32.5 percent children are under weight, which on account of both chronic and acute under nutrition, About 50 percent of women in Karnataka and 65.5 percent of children suffer from Anemia. The incidence is high in North Karnataka and in the Kalyan Karnataka Region.

The districts/talukas with high incidence of malnutrition are – kalburgi, Raichur, Yadgir, Koppala. Ballari, Bidar and Gadag, that require urgent attention. There are 102 talukas with high incidence of malnutrition that need on integrated multisectoral approach to address malnutrition. The multisectoral and inter generational approach as adopted in the World Bank Project in Chincholi and Devadurga needs to be adopted as a holistic approach. Targeting adolescent girls with anemia will help to reach to the root cause of women and child malnutrition.

4. The Pre-conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex-Selection) Act, 1994

Prevent Sex detection and selective abortion of female foeticide to increase sex ratio. As per census child sex ratio is 946 in 2001 and 948 in 2011. A total of 6073 scanning centers are registered in the state of which 5751 are private scanning centres and 322 are government scanning centers. Till date a total of 90 cases have been registered for violating PC & PNDT act, of which 56 cases are penalized for violation. 34 cases are pending for judgment. Below is the map of District wise sex ratio as per 2011 census

5. Ayushman Bharat Health Account (ABHA)

ABHA number is a unique 14 digit number to identify a person and update their health records across multiple health service providers. 291665 RCH ID linked with ABHA ID in Karnataka, which stands first among the state in India.

Rashtriya Bal Swasthya Karyakram (RBSK)

Rashtriya Bal Swasthya Karyakram (RBSK) is implemented in the State to screen the children studying in 1st to 12th standard in Government, Government Aided, Government Residential Schools / Colleges and in Aganwadi Centers. 94.73 lakhs school children with age group of 0 to 18 years were screened during 2022-23 (upto Nov 2022) as against the target of 141 lakhs which contributes to 67%.

Weekly Iron & Folic Acid Supplementation Program (WIFS)

During the current year (upto Nov 2022) 47.37 lakh Iron Folic Acid tablets (pink and blue) were distributed to the children in age group of 5 to 19 years as against the target of 62.00 lakhs. Similarly for Biannual De-worming the children aged from 1 to 19 years 1.99 crores Albendazole tablets were distributed as against the target of 2.29 crores (87%).

Universal Immunization

Under UIP, Karnataka targets to vaccinate 10.92 lakh children every year with all primary doses and additional booster doses for children during different ages against 12 vaccine preventable diseases. In addition nearly 11.93 lakh Pregnant Women are targeted each year. During 2022-23 (upto Nov 2022) as against the target of 10.92 lakh children were immunized which constituted to 94% .

Causes of Death

The major causes of infant deaths are due to prematurity or low birth weight. Pneumonia, Heart Disease and birth asphyxia also account for a major proportion of deaths. During 2022-23 (upto Nov 2022) 6119 infant deaths were occurred of which 235 deaths are occurred due to Pneumonia, 38 Diarrhea, 1000 Neonatal infections (Sepsis) (0-1 month) and 1456 Birth asphyxia and birth trauma (0-1 month) respectively. The remaining 3390 deaths were due to other causes.

Among females in the age group of 15-49, Hypertensive disorders in pregnancy (Includes eclampsia, pre-eclampsia, hypertension) and Hemorrhage are the leading causes of death. The total maternal deaths occurred in 2022-23 (upto Nov 2022) were 482 of which death occurred due to Hypertensive disorders in pregnancy 76, Post-Partum Hemorrhage 72, Obstructed labour 16, Abortion 3, Sepsis 7 and Other remaining deaths are due to other causes including high fever are 308.

NCD and RCH were prioritized in the report as SDG 3 goal is to reduce the global maternal mortality ratio to less than 70 per 100000 live births and reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well-being by 2030.

Table 11.5 : Top five cause of death due to Non - Communicable disease

Cause of Death	Deaths per 1000 population in 2021 (as per eJanMa)
Heart Attack and Heart Disease	8.93
Asthma and Bronchitis	1.66
Cancer	1.43
Diabetes Mellitus	1.18
Renal Failure	0.51

Screening tests for cancer

The percentage of women in the age group of 15-49 years under gone screening tests for cancer. 1% for cancer of the cervix, 0.2% for breast cancer and 0.4% for the cancer of the oralcavity.

Mental Helath

District Mental Health Programme (DMHP) is implemented in all the 31 districts including BBMP. Under this programme,73392 persons which included Medical Officers, Paramedical workers, Teachers, Police/Prisons staff, ANMs, Health Assistants , Community Health Workers, Panchayath Raj Officials were trained in 2021-22. During the current year (upto Nov 2022), 32918 above persons were trained under mental health programme.

During the current year (upto Nov 2022) clinical services are provided to 29380 persons of which 5196 are from urban slums. Totally 4322 awareness programmes are conducted

through IEC activities of which 3017 programmes are conducted on World Mental Health Day with 33554 participants, 690 programmes regarding prevention of Suicide are conducted with 13608 participants, 575 programmes are conducted against Drug Abuse and Illicit Trafficking observation and 40 programmes are conducted with 6260 participants on schizophrenia.

Community Mental Health Day care center Programme (Manasadhara)

This programme consists of Tele-Counselling, “Manochaitanya” - Mental Health Programme (Super Tuesday clinic), Karnataka State Mental Health Authority (Mental Health Care Act 2017), under this authority Innovations are Artificial intelligence & Data analytics to enhance mental health care services, Karnataka Mental Healthcare Management System (KMHMS) or e-Manas, KSHEMA- Karnataka State Holistic Empowering-programme for Mental Ailments, Care at Door-Step (CAD), Tele-mentoring, Matru Chaitanya - This program will ensure that ‘health rupees’ spent on physical and mental healthcare of mothers and provide optimal environments for every mother-infant dyad and National Tele Mental Health Program (TELE MANAS) - Tele mental health assistance and networking across States aims at providing services to those who are in distress, exam stress, familial problems. They can seek help by calling to the toll free number 14416 or 1800-89-1446. In Karnataka Tele Manas cell is established in 2 location one cell at NIMHANS, Bengaluru & another one at DIMHANS, Dharwad.

E-Hospital Programme

State government is implementing the e-Hospital programme in phased manner. Under NHM, at present upto 10 modules are being implemented, in 1st phase 47 hospitals (20 District Hospitals and 3 District level Hospitals, 24 Taluk Hospitals). In phase II, 123 THs, 27 CHCs, 217 PHCs and 5 MCHs have started implementing e-hospital application by using existing ICT equipment.

Quality Assurance Programme

Quality Assurance division under National Health Mission is enabling for maintenance of quality related aspects of all the public health care facilities in the state. Quality Assurance Programs are Kayakalpa, Swach Swasth Sarvatra (SSS), National Quality Assurance Program (NQAP), MeraAspataal (MA), Biomedical Waste Management (BMWM), Patient Safety, Infection Prevention & Control (IPC).

Karnataka State Aids Prevention Society (KSAPS)

During 2022-23 (upto Nov 2022) 8814 HIV positive cases are identified from general clients as against 21.62 lakhs tested (0.40%). Similarly out of 9.62 lakhs ANCs tested 394 cases are found positive which constitute 0.04%. During this period 53 free houses are provided under Rajeev Gandhi Housing Corporation, 362 female sex workers will be provided loan amount with subsidy at the low rate of interest under Chethana scheme and 107 HIV positive women will be given loan amount with subsidy at the low rate of interest under Dhanashree Yojana. An amount of Rs.23000/- scholarship and free education is provided to the children of 60 HIV infected persons to continue higher education.

Blood Safety

To provide adequate and safe blood and blood products at reasonable rates at present 260 registered blood banks in the state of which 43 are government, 209 private and 8 are IRCS blood banks.

Department of Ayush

Department of AYUSH has the broad mandate of providing Ayush services, regulating Ayush education and drug enforcement in the state. 726 Government Ayush Dispensaries, 168 Government Ayush hospitals are providing medical services through Ayurveda, Unani, Homoeopathy, Nature Cure & Yoga with a total bed strength of 2756. During the year 2023-24 it is proposed to commence 50 bedded Government Ayush Composite Hospitals at Yadgir and Chitradurga districts.

During 2022-23 (upto Nov 2022) 31.70 lakhs outpatients and 1.34 lakhs inpatients are availed Ayurveda, Unani, Homoeopathy, Yoga and Naturopathy medical facilities.

Current Status of COVID-19 in Karnataka and Action Taken

At present the Covid 19 situation in the State is stable. Currently, an average of 20-30 cases are reported daily with 0.5% Positivity Rate and 0% Case Fatality Rate, as on 28th Dec 2022. It is noted that the majority of districts are reporting NIL cases.

Covid Vaccination

- ❑ The vaccination drive is intensified in the State and more than 6,000 Vaccination centers are functioning on daily basis.
- ❑ Till date a total of 12.04 Crore doses (1st Dose- 5.51 Cr, 2nd Dose: 5.53Cr) are administered to the eligible beneficiaries, covering 100% of the eligible population.
- ❑ In 15-17 Yrs category, 56 Lakh doses are administered, which amounts to 96% of target population. The booster dose vaccination sessions are accelerated, in line with supplies.

CHALLENGES AND WAY FORWARD

- ❑ The state needs more infrastructures particularly in the rural areas with adequate access to primary, secondary and tertiary facilities of the 30 districts, many of them required a large 500 bed multidisciplinary hospital that can cater to the needs of the community. These high-tech facilities will also attract doctors and medical staff to work in small towns instead of moving large cities in search of good hospitals.
- ❑ Create more Healthcare centers with adequate access to primary, secondary, and tertiary facilities to address shortfall of 245 Urban and 209 Primary Healthcare Center's in Urban and Rural areas; 5 districts Bengaluru Urban, Belagavi, Mysuru, Vijayapura and Dharwad account for 51% shortfall.
- ❑ Convert all healthcare delivery institutions to smart healthcare clinics (e.g. telehealth enabled) & hospitals.

- ❑ Empower community healthcare workers (e.g., ASHAs, MPHWS & Auxiliary Nurse Midwives) to deliver higher quality primary care for underserved segments under remote doctor supervision, enabled by telemedicine platforms, point of care mobile testing solutions, and digital upskilling platforms available under the ambit of Ayushman Bharat Digital Mission.
- ❑ Alongside infrastructure capacity, comprehensive enrolment in the Ayushman Bharat Insurance programme is required, so everyone can access secondary and tertiary care. Run digital and door to door campaigns to ensure universal enrollment in Ayushman Bharat to cover the weaker section of the society e.g. Deploying ASHA/AHM workers for door to door ABHA registration campaigns (Ayushman Bharat Health Account).
- ❑ Boost doctor availability (e.g. incentivizing doctor empanelment and participation through stipends basis number of consultations) for telemedicine platforms such as E Sanjeevani.
- ❑ Setup public and private training centers (incentive driven) to match the supply against the state demand. Nursing and assistant training centers: 6 districts Bengaluru Urban, Belagavi, Mysuru, Tumkur, Hassan and Mandya contribute to 39.2% deficit and could be prioritized. Lab technician training centers: 6 districts Bengaluru Urban, Shimoga, Mysuru, Tumkur, Hassan and Mandya contribute to 39.1% deficit and could be prioritized.
- ❑ Public and private medical colleges could set up nurse and allied health professional paramedical training programs to qualify accredited, high-quality education for auxiliary healthcare professionals and help address shortage of nurses and paramedical staff.
- ❑ Develop state of the art hospitals in Bengaluru and other cities like Mangalore, Manipal etc. to promote Karnataka as a Medical Tourism destination for India and the world.
- ❑ Develop towns like Mysuru as “World Yoga Destinations” given its popularity with foreign tourists on the same lines as Varanasi and Rishikesh.
- ❑ Develop financially attractive value propositions to improve PPP like Outcome based compensation mechanisms e.g. payments based on number of patients, outcomes delivered etc., mutually agreed tariffs for end users to improve financial viability, PLI for centers being operated in rural areas.
- ❑ Establish Digital Control Towers to monitor patient statistics, drug and equipment inventories accounts, and personnel utilization via electronic records maintained by healthcare facilities, to ensure compliance with SLAs in public private partnerships for healthcare infrastructure.
- ❑ The district hospitals and primary health centers can be attached to a medical colleges in the surrounding areas so medical students can rotate through the hospital and provide the required services.
- ❑ Malaria elimination target set in Karnataka state by 2025.
- ❑ Aim to eliminate measles and rubella by 2023. There is a need to achieve consistent and desired standards in all districts, if the goal of prevention of measles and rubella virus transmission in the country is to be achieved.

- ❑ During the year 2023-24 it is proposed to commence 50 bedded Government Ayush Composite Hospitals at Yadgir and Chitradurga districts.
- ❑ Prevent Sex detection and selective abortion of female foeticide to increase the sex ratio.
- ❑ Under NCDs out of 226 Taluks, 94 Talukas, (heart disease), 71 Talukas (Renal Disease), 70 talukas (Asthma) and 67 Talukas (cancer) are identified as aspirant Talukas. Prioritize the aspirational Talukas to conduct the screening and identify the diseases at the early stage to reduce deaths due to Non Communicable diseases.
- ❑ 77 Talukas are identified as aspirant talukas (above state average) concerning Maternal Mortality Rate (MMR). Focus needed on four ANC checkups addressing anemia and health infrastructure.
- ❑ Operationalization of sub centers, primary health centres for providing 24/7 basic and comprehensive obstetric care services including labs and medicines.
- ❑ The notification rate of TB cases 135 per 1,00,000 population is to be reduced.
- ❑ To reduce the MMR, locate the pregnant women in her area and register her for ANC and help them for acquiring mandatory certificates.
- ❑ At present 94% of children in the 9-11 month of age group are fully immunized which is to be immunized to 100%.

11.2 EDUCATION

Karnataka's educational system with the aim to appreciate and encourage perseverance of excellent standards; to identify areas that will benefit from improvement in order to attain global educational goals; to record the State's progress towards achieving equitable quality education in comparison to, and with its immediate southern neighbours, and India as a whole. Quality Education is adopted as one of the seventeen UN's Sustainable Development Goals, and it will play a crucial part in bringing about global peace and prosperity. The National Education Policy, 2020 introduces extensive changes to education in order to make the learning process more personalized, meaningful and holistic in order to give the best possible chances for every child to realize the potential that they possess in the fields that would be best suited for their strengths and inclinations.

During 2022-23 an amount of Rs.27548.84 crores is provided in the Budget of which Rs.24717.68 crores is released upto January 2023 for Primary and Secondary Education. The expenditure incurred is Rs.20207.79 crores. Out of the total allocation productive allocation is Rs.5557.83 crores and productive expenditure incurred is Rs.3473.69 crores upto 20th January 2023. Scheme wise progress is mentioned below:

(Rs. in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Director of Pre-University Education	113.86	97.97	90.06
Government PU Colleges	1220.90	1203.35	917.80

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
GIA to PU Colleges	624.09	616.06	480.49
Govt Presses	72.22	58.96	56.13
Cost of Printing by Other Sources	5.00	2.50	0.61
Maintenance of School Buildings	16.00	6.14	0.98
Maintenance of School Facilities	35.00	30.24	26.92
Reimbursement of fees to Private Schools under RTE	357.15	163.71	272.82
Non-Govt. Teachers' Training Institutions	14.13	14.51	10.84
Teachers Training and Orientation Training Centres	20.58	20.40	16.14
Vidya Vikasa Scheme- Incentive for Students	338.27	166.87	308.16
Commissioner for Public Instructions- Bangalore	35.18	33.58	27.31
Director, State Educational Research and Training	11.83	11.83	7.36
Commissionerate of Public Instructions - Gulbarga	8.84	8.41	7.12
Commissionerate of Public Instruction - Dharwad	9.83	9.56	8.12
Karnataka Secondary Education Examination Board	14.74	14.67	12.42
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.97	0.97	0.00
Maintenance of Secondary School Building	20.00	14.78	6.77
Kittur Rani Chennamma Residential School for Girls	5.02	3.77	2.44
Sainik School Bijapur	7.35	5.51	3.94
Sainik School Koodige	7.81	5.86	4.43
Samagra Shikshana Karnataka - Teachers Education	115.90	114.91	93.21
Bharath Sevalal	1.79	1.60	0.98
Quality Assurance Initiatives	4.00	3.98	3.02
Education Quality Improvement Program	6.01	4.50	3.34
Student Motivation Initiative	5.00	4.62	2.44
Bharath Scouts	3.90	7.40	6.99

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Infrastructure for Primary Schools	333.40	131.26	16.38
Infrastructure for Karnataka Public Schools	135.00	33.75	0.00
Maintenance and Repair of Toilets	50.00	17.50	9.08
Infrastructure facilities for High Schools and PU Colleges	288.34	241.60	26.06
Equipment and Furniture for High School and PU-College	50.00	0.00	0.00
State Programme for Ksheera Bhagya (MDM)	1291.82	971.15	709.13
Samagra Shikshana Karnataka - Teachers Salary	1734.33	1463.38	1211.03
Appointment of School Mothers	70.77	68.84	66.70
Salary to Government Primary School Teachers	10741.84	10220.50	7762.76
Elementary Schools GIA	863.83	863.98	638.02
Block Education Office -salary and non-salary expenses	235.15	235.62	189.16
Pre - Elementary Schools	1.56	1.55	0.63
Samagra Shikshana - Teachers Salary	6.42	6.53	8.32
GIA to Private High Schools	2321.92	2263.92	2398.69
DDPI Office salary and non-salary expenses	86.42	86.05	91.80
Financial Assistance and Reimbursement of Fees (Including Anglo-Indian Students) and Vidya Vikasa	37.24	27.27	25.01
Gandhi Grameena Gurukula, Hosaritti	1.38	1.26	1.12
Salary to Government High School Staff	3717.25	3513.38	2669.37
Salary to Residential High School Staff	1.17	1.31	0.71
Purchase of Essential Materials to Government High School	15.86	6.04	2.39
Public Libraries- Direction and Administration	68.26	66.45	51.37
Mass Education-Preparatory Activities for Launching State Adult Education Programme-Strengthening of Administrative Structure at State Level	1.97	1.51	1.56
Executive Establishment	13.82	14.07	10.01
CSS - New India Literacy Programme	9.87	0.00	0.00
CSS - Mid Day Meal Program (MDM)	959.58	861.79	861.79

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
CSS - Samagra Shikshana Karnataka	1436.27	992.31	1085.86
Grand Total	27548.84	24717.68	20207.79

Source : Avalokana Report as on 20-1-2023

In the Budget 2022-23 “Rs.900 crore is provided for the development of infrastructure in the government of Aspirational Talukas”.

11.2.1 LITERACY IN KARNATAKA

Literacy rates in Karnataka and India

	Karnataka	India	Karnataka (Rural)	Karnataka (Urban)
Persons	75.36	74.04	68.73	85.78
Males	82.47	82.14	77.61	90.04
Females	68.08	65.46	58.32	77.97

Source: 2011 Census

The literacy rate in the State during 2001 was 66.64 per cent, which increased to 75.36 percent in 2011. The growth of literacy during the 2001–2011 decade shows that Karnataka has achieved significant progress.

The overall literacy rate, male and female literacy rates in Karnataka are above the national average. Urban male literacy rate in the State has crossed 90%. However, rural female literacy rate in the State is yet to cross 60%. The literacy rank of the State was 9th among 16 major States during 2001 and the same position is maintained in 2011. The overall increase in literacy rate in the State during this decade is 9%.

Status of School Education

During 2022-23, there are 72,645 Schools in the State of which 24,737 Lower Primary, 30,671 Higher Primary and 17,237 High Schools.

Of the total schools, the percentage of education department's schools is as high as 85.55% in case of lower primary schools and 70.62% in higher primary schools. However, Education Department's participation is low in secondary education as only 27.49% of the high schools are managed by Government. Government schools are mainly located in rural areas, where as private schools are largely urban based.

Elementary Education

a) Access

There has been significant progress in improving access to schools in the State. The State has the policy to start a new primary school within one Kilometer in habitations where the population is more than 100 and child population is more than 10. HPS is provided within 3 Kilometer radius and High Schools in 5 Kilometer radius. Feeder schools or transportation facilities are provided in small and sparsely populated habitations. All habitations with a population of 100 and above now have access to a primary school

within a distance of one Kilometer. HPS are being upgraded to include class 8, wherever there are no High Schools within 3 Kilometers. A total of 7817 HPS has been upgraded so far.

b) Enrolments

- i. Enrolment during 2022-23 in primary (class I to V) and in upper primary (class VI to VIII) stage was 54.56 lakh and 31.97 lakh respectively. It is noted that 85.90% of children are studying in rural government schools.
- ii. Since last years the enrolment has decreased marginally in the class I to V primary stage. This is due to the decline in the growth rate of population and consequent decrease in the school going age group. Even though State is making continued efforts for successful completion of schooling at class V.
- iii. Total enrolment in the State in 1 to 10 standards have marginally increased from 103.13 lakh in 2018-19 to 106.23 lakh in 2022-23. Both gender parity and gender equity are nearing unity in the State. Gender Parity in enrolment at primary and upper primary is 0.99 and 1.02 in Government + Aided schools.
- iv. During the 2022-23, GER and NER for lower primary are 103.73 and 99.16 respectively. At higher primary stage GER and NER are 102.26 and 87.55 respectively.

c) Drop-out Rates

During 2022-23 Drop-out Rates in Lower Primary and Higher Primary Stages are 0.09% and 0.49% respectively. In the current year Samagra Shikshana-Karnataka (SSK) had identified 4,245(6 to 14 years) drop-out children in State. Most of the drop-out children were in the districts namely Vijayapura, Bidar, Yadgir, Kalaburagi, Koppal, Ballari, Dharwad, Raichur, Gadag, Haveri, Chikkodi, Chitradurga, Davanagere, Chikkaballapura, Kolar and Chamarajanagar. The RTE Act specifies that drop-out children should be mainstreamed in regular schools. Every drop-out-child is expected to be enrolled in a nearby school and provided Special Training. Progress of the child is periodically assessed on a learning ladder on the basis of which, the child is admitted to an age-appropriate class.

d) Out of School Children (OOSC)-Strategies

As per RTE Act 2009, it is mandatory to provide free and universal education to all children aged between 6 and 14 years. In this context, random survey for identifying out of school children was conducted during December 2021. The department planned for 4,245 children between the age of 6 years and 14 years which includes children identified in random survey, night survey and migrant children. Among the total 4,245 children identified, 4,092 children are covered under special enrolment drive for out of school children through various activities.

e) Steps taken to ensure continuation of mainstreamed children in regular schools

- School dropout period of children out of school is considered to be 7 days instead of 60 days.
- To prevent absenteeism of children and to attend schools regularly Education Coordinator (ECO) is appointed as Attendance Authority. In case absenteeism of

more than 7 days is found, ECO is supposed to visit the students' family to persuade the parents to bring their children to schools and this method is being implemented.

- ❑ Free uniform, text books, mid-day meals plan, ksheera bhagya, vitamin tablets etc., are provided to encourage students to attend schools regularly.
- ❑ Scholarships and admissions in hostels are provided to co-ordinate different incentives given by other departments regarding Child Education.
- ❑ Each school is ordered to maintain the VER (Village Education Register) / WER (Ward Education Register)
- ❑ Totally 71 Kasturba Gandhi Balika Vidyalaya (KGBV) schools and 86 KKGBV Hostels are opened in educationally backward blocks so that drop out girl students are admitted to continue their education on priority basis.
- ❑ Pamphlets are printed in this regard to reach out parents who take admissions for their children and also action is taken so as to teachers visiting the parents' homes to persuade them to send their children to schools.
- ❑ Data on children who have come to mainstream is collected in the Vidya vahini software.

f) Infrastructure

i) Basic facility under Samagra Shikshana Karnataka

Efforts are made by the State under universalization of Primary Education Scheme to provide building to school, additional room, aid for repair and maintenance of schools. Under RTE Act, the State has put sufficient efforts to provide basic facilities like free admission, sufficient class rooms and separate toilets for boys and girls, playground, library, compound/fences, drinking water, toilet, kitchens and other facilities. The main five facilities (Pancha Soulabhya) are Drinking Water, Toilet, Play Ground, Compound Wall and School Building. Significant progress is achieved by the State in providing fundamental facilities.

ii) School Buildings and Classrooms

Out of a total of 55,408 elementary schools in the State 42,823 schools belong to the Department of Education. About 98.86% of schools of the department possess own buildings. The remaining 1.14% includes those operating in rent free or rented building. During 2022-23, there were 2,02,627 classrooms (1,88,941 in 2008-09) in elementary schools indicating an increase of 13,686 classrooms in about 12 years. 74.79% of classrooms are in good condition. 11.71% classrooms need minor repairs, while 13.50% of classrooms require major repairs. Out of a total of 17,237 Secondary schools in the State, 4,738 belong to the DoE. About 98.37% of schools of the Department possess own buildings.

(h) Teachers

In 2022-23 in the State, 1,47,175 teachers (88.45%) are working in the LPSs and HPSs against the sanctioned vacancies of 1,66,393. Further, in Aided schools at the elementary stage, 14,083 were working against the sanctioned posts of 16,223. It is observed that 80.33% of the teachers in Government schools at the elementary stage are female teachers.

Teacher-Pupil ratio is satisfactory in Government schools; the average PTR being 1:25 at the elementary stage. However, variations are seen across districts, blocks and at school levels. The State has adopted a policy to rationalize teacher deployment to correct such imbalances. However, PTR in private aided and unaided schools is comparatively high at 1:55 and 1:31 respectively. The total teachers working in the State including elementary and high school levels are 3,87,580.

SECONDARY EDUCATION

With significant gains in primary education, the State has set in motion the planning process for universalization of secondary education to achieve the target of 85% enrolment in 14-18 age groups in classes 9 to 12. The State is also committed to strengthening the knowledge base of the society to sustain higher rate of economic growth.

1. Institutions/Enrolment/Teachers

The State has a total of 17,237 secondary schools of which 4,738 schools are run by the Department of Education, 969 Social welfare and Local Body schools, 3,768 by Aided managements, 7,569 by Private Un-Aided managements and 193 by others. The concentration of the secondary schools in the Private Un-Aided sector may be one of the reasons for the low access of children from marginalized groups to higher education. 51.06 percent of girls are enrolled in Govt. schools and only 45.18 percent of them study in Private Un-Aided schools.

According to the available data, in the State, total of 1,02,894 teachers are working in Un-Aided secondary schools out of 1,77,157 teachers. The State has set the goal of making secondary education of good quality available, accessible and affordable to all children in the age group of 14 to 16 years.

b) National Skills Qualification Frame work (NSQF)

1. Ministry of Human Resource Development, GOI has introduced the new scheme of National Skills Qualification Frame work (NSQF) to be implemented under Rashtriya Madhyamika Shiksha Abhiyan (RMSA) as per the guidelines. The main objective of this programme is to introduce vocational courses along with the regular courses and thus enable the students to gain skills and competencies essential to get employed. This is a continuing programme implemented in 10 different levels starting from classes 9th to 12th and thereafter up to graduation, post-graduation and Ph.D levels.
2. The students of 9th and 10th Std. who have opted vocational subject under NSQF are exempted in studying 3rd Language and the students of 11th and 12th Std. opted vocational subject under NSQF are exempted from studying either one of the language.

Pre-University Education

In Karnataka, the government has created a separate department to administer Pre-University Education and has a separate frame work for the appointment of Lecturers, Principals and other Staff. Pre-University Education is recognized as a separate stage of education in Karnataka.

The number of students has increased considerably this suggests setting up more colleges with even better facilities for the welfare of the students. Funds released under

NABARD-RIDF and Special Development Schemes are being utilized to meet the infrastructural needs of Pre-Universities. The department has been organizing refresher, revival programs to increase the efficiency and productiveness of lecturers to get better results and also focus on the districts where the results of the students are low.

There are 5,715 PU colleges in the State as on 31.12.2022 of which 1,231 are Govt colleges. The remaining are Aided/Unaided/ Local Body colleges. During academic year, the strength of 2nd PU student is 6.37 lakhs.

Achievements

- ❑ Note books have been distributed at free of cost to 96,000 Scheduled Castes and 40,000 Scheduled Tribes students studying in First and Second PUC.
- ❑ 2 Principals and 8 Lecturers were awarded Best Principals and Best Lecturers on the occasion of Teacher's Day for the year 2022-23.
- ❑ 32 Biology lecturers from 32 districts, one from each district, were given 7 days training by Karnataka Science and Technology Society.
- ❑ A fee exemption of Rs.456/- per student has been given to girls studying in Government Pre-University Colleges in the first and second PUC in the current year.

Higher Education

Collegiate Education

The Department of Collegiate Education oversees the administration of 853 degree colleges of which 430 are Government Colleges & 423 are Private Aided Colleges.

The number of students enrolled in graduation in both government and aided institutions during 2022-23 are 5.95 lakh. The average strength in each government college is 923 and each aided degree colleges is 686. The Male Female Ratio is 41:59 in favour of girls. This is a welcoming trend.

During 2022-23 an amount of Rs.5735.43 crores is provided in the Budget of which Rs.4575.31 crores is released upto January 2023 for Higher Education. The expenditure incurred is Rs.3596.78 crores. Out of the total allocation productive allocation is Rs.892.26 crores and productive expenditure incurred is Rs.227.96 crores upto 20th January 2023. Scheme wise progress is as mentioned below:

(Rs. in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Centre for Hindustani Music	0.50	0.50	0.05
Mysore University	171.75	171.75	141.63
Karnataka University-Dharwad	180.96	180.96	147.86
Bangalore University	118.73	118.73	96.38
Gulbarga University	54.33	54.33	41.28

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Mangalore University	86.85	86.85	50.33
Kannada University - Hampi	45.33	45.33	25.05
Kuvempu University - Shimoga	88.81	88.81	65.44
Women's University-Bijapur	16.68	16.68	12.85
Tumkur University	40.46	40.46	31.36
Davanagere University	27.60	27.60	21.97
Vijaynagar University,Bellary	24.38	24.38	17.83
Belagaum University	37.15	37.15	27.39
Janapada University	3.26	3.26	2.19
Bengaluru Central University	7.20	7.20	5.23
Bengaluru North University	4.16	4.16	3.52
Raichur University	1.92	1.92	1.56
Mandya University	1.39	1.39	1.03
Maharani Cluster University	2.43	2.43	1.00
Nrupatunga University	5.15	5.15	4.51
Institute for Social and Economic Change	8.90	8.90	5.68
National Law School	10.00	24.00	35.50
Centre for Multi-disciplinary Research, Dharwad(CMDR)	4.47	4.47	1.74
Assistance to Sanskrit and Vedic Research Institutions	1.80	1.80	0.90
Various initiatives for Education improvement including Academy for Higher Education	16.00	6.00	4.75
Karnataka State Council for Higher Education	2.00	2.00	1.50
Samskrutha Patashalas	32.54	32.54	24.85
Assistance to Academy of Sanskrit Research, Melkote	2.49	2.49	1.74
Non-Government Sanskrit Colleges	10.35	10.35	7.94
Sanskrit University	10.49	10.49	8.00
Music University	2.35	2.35	1.67
Director of Collegiate Education	17.50	15.60	14.17
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.17	0.00	0.00
Other Government Colleges	1604.60	1281.06	1207.23
Establishment & Equipment to Student Hostels	0.66	0.57	0.41

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
GIA - First Grade College	1041.65	748.51	610.82
GIA to B.Ed Colleges	67.02	59.63	46.06
Government of India National Scholarships	0.10	0.00	0.00
Scholarship to Encourage Bright Students to Study Science at Degree Level	3.00	0.06	0.00
Exemption from Payment of Full Fees to all Girl Students	25.00	0.00	0.00
Support for NAC Accreditation	1.40	1.05	0.70
Government Sanskrit Colleges	4.47	4.22	3.18
Fine Arts Colleges including Chitrakala Parishath	12.23	10.56	8.78
First Grade College Buildings	250.00	40.05	34.59
Equipment in Degree Colleges	65.00	0.00	0.00
Director of Technical Education	15.11	18.53	13.08
Junior Technical Schools	5.19	6.30	3.84
GIA to Polytechnics	495.65	371.74	237.61
Government Polytechnics	460.10	562.54	366.52
Scholarship for talented students in Engineering Colleges and Polytechnics	26.00	15.02	11.48
Expenditure towards paper valuations, TA/DA and remuneration	5.53	4.15	3.80
S.K.S.J.T. Institute, Bangalore	71.15	86.76	55.13
GIA to Engineering Colleges	159.14	159.14	105.85
Equipment for Engineering Colleges	5.00	0.10	0.00
Construction of Polytechnics	76.49	23.18	20.05
Engineering Colleges	150.21	93.10	29.14
National Cadet Corps	53.93	49.01	31.61
CSS - Rashtriya Ucchar Shiksha Abhiyana	98.70	0.00	0.00
Grand Total	5735.43	4575.31	3596.78

Source : Avalokana Report as on 20-1-2023

National Education Policy (NEP-2020)

Honorable Prime Minister presented the National Education Policy 2020 on 1st July, 2020 with a view to creating an education system that ensures quality education and builds an equitable society, in line with their capacity to contribute to the development of our nation. This policy envisages that the extant 10+2 structure in school education will be modified with a new pedagogical and curricular restructuring of 5+3+3+4 covering ages 3-18. In the new 5+3+3+4 structure, a strong base of Early Childhood Care and Education

(ECCE) from age 3 is also included, which is aimed at promoting better overall learning, development and well-being.

Government of India implemented the National Education Policy in the year 2020, following which Karnataka Government issued an order to implement the New Education Policy in Universities and affiliated Colleges under the Department of Higher Education from the Academic year 2021-22. Complying with this order, National Education Policy-2020 is being implemented in all Government First Grade Colleges of the State.

Quality and Inclusive Education-Implementation of National Education Policy 2020

- ❑ Promoting vocationalization of education is the urgent requirement. As per National Education Policy (NEP Clause 4.26): Every student should be imparted vocational crafts, such as carpentry, electric work, metal work, gardening, pottery making. Internship opportunities to learn vocational subjects may be made available to students throughout Grades 6-12, including holiday periods. Vocational courses through online mode also to be made available. Establish Centres of Excellence/ Skill Development Centres at all Educational institutions.
- ❑ There are about 75,000 dropout children, it may be useful to transform vocational education within the school in ways that it focuses on developing skill sets with knowledge for all students in secondary school posts 9th grade. Collaborate with NGOs like Labour net & introduce multiple entry and exit options in higher education.
- ❑ Scaling up the model of collaboration with Tata Technologies to upgrade 150 ITIs and Introducing 23 courses.
- ❑ There are 4,687 high schools, out of them, 2,150 schools do not have ICT Labs. These to be covered under TALP and other ICT initiatives. To encourage Science education, establish STEM labs in Girls' high schools.
- ❑ Provide Toilet facilities in all schools with priority to schools in talukas in Kalaburagi, Yadgir, Raichur districts. Transport facilities and financial assistance and ensure safe environment at school to increase the enrolment of girls.
- ❑ Establishment of Special Education Zones in educationally backward talukas with Vocational Education and Skilling Hub (VESH) in every SEZ.

Higher education to nurture specialization and human capital development is exceedingly important in the knowledge economy. Karnataka's GER in Financial Year 20 was 32, with Women's GER at 32.7, having overtaken men's at 31.2 for the first time. While this is 5 points above the all-India average of 27.1, Karnataka is lagging in other southern states, who are all above 35. Tamil Nadu (51.4) leads and is the only state with GER over 50, followed by Kerala (38.8), Telangana (35.6) and Andhra Pradesh (35.2).

SMART CLASS ROOMS

6,500 class rooms of Government First Grade Colleges, Government Polytechnics and Government Engineering Colleges are being upgraded into Smart Class Rooms at an expense of Rs.97.50crores during the academic year 2022-23. Every Smart Class Rooms will be provided with Projector, White Board, U.P.S and High speed internet facility. Smart Class Rooms complement the Karnataka LMS initiative and are a great help in improving the classroom teaching.

“Initiatives taken to enhance the quality of Government First Grade Colleges in Karnataka”

- ❑ To improve the quality of Higher Education, the Central Government under the component-7 (Infrastructure Grants to Colleges) of RUSA, a flagship project under Ministry of Human Resources Development, Government of India has selected 90 Government First Grade Colleges of our state and grant of Rs 2 crores has been sanctioned to each of these colleges.
- ❑ Under component-1 of Rashtriya Uchchatar Shiksha Abhiyan (RUSA) (Upgradation of Autonomous College to Universities), Government College Mandya (Autonomous) has been selected and a grant of Rs.55 crores has been sanctioned.
- ❑ Under component-2 of RUSA (Creation of Cluster Colleges to University), Maharani Science College for Women, Bangalore, Maharani Arts, Commerce and Management College for Women, Bangalore and VHD Central Institute of Home sciences, Bangalore have been selected as Cluster University and a total grant of Rs.55 crores has been sanctioned for this project.
- ❑ Under component - 5 of RUSA Government First Grade College, Jewargi has been selected to transform as a Model college and a grant of Rs.4 crores has been sanctioned to this college.
- ❑ Under Component-5 of RUSA Phase-2 (new Model Colleges) Raichur and Yadgir districts (Aspirational Districts) two colleges are allotted Rs 12.00 crore.
- ❑ In Component-6 (Up gradation of existing Degree College to MDC) 3 Government First Class Colleges have been selected for each college Rs. 4.00 crore has been earmarked.
- ❑ In component-8 (Enhancing Quality and Excellence in Select Autonomous Colleges) 4 autonomous government first class colleges have been selected for each college Rs. 5.00 crore has been earmarked.
- ❑ Under Component-9, 21 Govt Frist Grade colleges are selected for a grant of Rs.2.00 crores each.
- ❑ Department of College Education through EDUSAT imparts teaching in Spoken English, Computer Fundamentals and Life Skills etc. to all the students of 327 Government First Class Colleges at fixed time every day for two hours.
- ❑ Tele-Education: Using the expertise of IIMB Bangalore and its affiliated institutions, Tele-Education classes are being set up and telecasted in these colleges to improve English language proficiency for students studying in first degree classes in a total of 73 government first class colleges including 64 colleges in Hyderabad Karnataka region and 9 colleges in rest of Karnataka region.

Technical Education

Technical Education across the globe is gaining importance day by day because of the rapid advancements in science, technology and innovations. Department of Technical Education is playing a vital role in contributing for the growth of Information Technology and Industries in Karnataka State by making its products capable of competing across the globe.

In 2021-22 there were 528 institutes across the State ranging from Degree to Diploma, Junior Technical Schools/Colleges. In order to provide the Human Resources and enhance the teaching efficiency of the staff, the teaching faculties have been deputed to seek higher education and also improve their skills through short term training programmes.

The process is underway to revise the syllabus of all 33 diploma and 2 post diploma programs and 4 subjects of Junior Technical Schools which are to be revised to the latest needs of the industry, skill based and made employment oriented from the year 2022-23.

A new Learning Management System -LMS is being introduced in both Government Polytechnics and Government Engineering Colleges which encompasses content development, digital library, online classes, online assessment etc. from the year 2022-23.

All India Survey on Higher Education (AISHE)

The Department of Technical Education is participating in this survey since 2010-11 by providing the necessary information (through online) to MHRD. The Department of Technical Education was the first department in the country to complete the 100% survey work in the inaugural AISHE program. During 2021-22, all technical institutes have filled the required formats of the survey.

Information and Communication Technology Initiatives-ICTs

ICTs contribute for universal access to education, equity in education, the delivery of quality learning and teaching, teachers' professional development and more efficient education management, governance and administration. Department takes a holistic and comprehensive approach for promoting ICTs in education in order to address the challenges in realizing the vision of higher education.

Outcome Based Education System (OBE)

First time in India "Outcome Based Education Curriculum" is introduced in all its 35 diploma programs affiliated to Board of Technical Examinations, Karnataka by conducting several workshops including industrialists, expert faculty and other stakeholders. One of the main elements of accreditation process is the formation of curricula based on OBE, which is based on revised Blooms Taxonomy. The OBE enhances skill development amongst technologists, improves employability and supports entrepreneurship among diploma students.

Revamped Curriculum for Polytechnic Diploma Programs

The Department of Technical Education has developed the new C_20 Curriculum that is focused on job ready workforce and aligned to NSQF as well as international standards. DTE after extensive consultations with industry, academia, alumni and government, are implementing a new pathway driven curriculum, which provides opportunities for students to plan their career paths as they progress through their learning – leading them to choose from employment, entrepreneurship or higher education.

From the academic year 2020-21, DTE is offering new Diploma programs in emerging areas like Alternative Energy Technologies, Food Processing and Preservation, Travel & Tourism, Automation and Robotics, Cloud Computing and Big Data & Cyber Physical Systems and Security, EE &EVT and Gaming & Animation.

7 Government Engineering Colleges of the State have been identified to upgrade as “Karnataka Institute of Technology (KIT)” on IIT pattern.

As announced in the budget speech for the financial year 2022-23 to promote the highest quality technical teaching-learning and research 7 Government Engineering Colleges of the State on IIT model “Karnataka Institute of Technology (KIT)” identified for up gradation.

Implementation of Comprehensive Karnataka Learning Management System

We have implemented the Karnataka LMS, to enable students to learn from anywhere, anytime. Students are now enrolled into a learning system that helps to assess themselves continuously and seek corrective action to ensure just in time learning and correction. Polytechnics are now equipped with Smart classrooms to facilitate digital learning classrooms. Further, students are provided with tablet PCs to enable online learning.

Integrated Karnataka Learning Management System

For the first time in the country, a student-friendly integrated learning management system has been implemented to increase the learning ability of students in order to develop more skills in studying and studying polytechnic, diploma and engineering. Students are enabled to use a comprehensive learning management system through a free tab.

Integrated Twinning Program by the Department of Collegiate and Technical Education in partnership with Montgomery County Community College’s, Pennsylvania, USA

The department of Collegiate and Technical Education (DCTE), has been working on revamping of its Diploma Curriculum to align it to global standards to enable both global learning and employment as envisioned by the Hon’ble Prime Minister of India. India has the potential to be the global provider of skilled workforce to industry and Karnataka aspires to be the lead provider of highly skilled workforce. To realise this vision, the Department of Collegiate and Technical Education has launched its first partnership for offering an integrated twinning program leading to the award of an Associate Degree from Montgomery County Community College (MCCC), Pennsylvania, USA. This twinning program shall be offered at the Sri Jayachamarajendra (Govt.) Polytechnic in Tourism and Hospitality.

The Tourism and Hospitality Management Program prepares students for the careers in entry to mid-level leadership positions in convention and visitors bureaus, destination management companies, restaurants, parks, hotels and resorts, among other businesses. As the economy recovers from the pandemic, jobs in these fields are expected to be in great demand globally.

DTE-Bangalore Chamber of Industry and Commerce Partnership

Industry-Academia partnership is key to ensure success of both, as without educated and skilled manpower industry cannot sustain and without industry nobody will hire the students in academia.

Department of Technical Education and the Bangalore Chamber of Commerce and Industry (BCIC) have signed MoU, which will enable all Polytechnics across Karnataka to produce job ready students not just as employees but entrepreneurs as well.

Help educate-An initiative by DCTE –MoU with Infosys

The Department of Collegiate and Technical Education (DCTE) is working with industry to revolutionize education in Karnataka. DCTE has partnered with leading industries in revamping curriculum, placement, faculty training etc. As a testimony to the power of Industry academia collaboration in bringing about meaningful social changes in the Department of Collegiate and Technical Education. The Infosys Ltd Bangalore and Rotary India have come together to make a difference in the learning of students of Government Engineering and Polytechnic colleges across Karnataka, most of whom hail from socio-economically marginalized background.

The key points of the MoU with Infosys are:

- ❑ Utilizing the **Infosys Springboard** Platform for faculty and student training.
- ❑ Faculty Enablement Program
- ❑ 15,000 de-bonded Computer Donation

Infosys Springboard

Is a new digital learning platform for students to 'Learn by doing' and teachers to better collaborate with learners, the key features are: Digital Platform for Learning, Learning Contents, Live Classes, Quizzes and Master classes on Digital Technologies, Career Guidance Programs, Virtual Lab / Playgrounds and Programming Challenges.

Internship Opportunities – Graduate students can apply for Infosys Springboard Internship opportunities on digital skills to apply their classroom learning on industry relevant projects and problem-solving exercises.

Convocation in Commemoration of Sri Nalvadi Krishnaraja Wodeyar

In Commemoration of Sri Nalvadi Krishnaraja Wodeyar, the Board of Technical Examination, Department of Technical Education successfully conducted Convocation Ceremony for the First time on 02.11.2022 at Vidhana Soudha, Banquet Hall. 106 Medals and Diploma Certificates were awarded to outstanding students of 36 programs.

Digitalization of Diploma Marks Cards in National Academic Depository (NAD)

To bring Administrative and educational reforms in the field of education, National Academic Depository (NAD) which is the official body of UGC New Delhi, has set up Digital Depository of Academic Awards which aims to provide 24x7 online service for Digital preservation of Academic information held by educational institutions across India. The Board of Technical Examination Karnataka has uploaded 1,00,10,892 Diploma marks cards in Digital form in NAD and stands second in the country for uploading highest number of records.

Medical Education

In 2022-23, there are 60 Medical Colleges (MBBS degree) in the State which have a summated intake capacity of 9,895 students. In these, 21 colleges are run by the Government. The Government's presence is visible in nominal strength in other system. Relatively, the turnout of Ayurvedic doctors (GCIM) is quite significant. There are 40 dental colleges in the State which have summated intake capacity of 2,865 students. In these, 2 dental colleges are run by the Government. 497 Nursing Colleges recognized by Indian Nursing Council turn out 28,235 Nurses (B.Sc.graduates) in 2022-23. Karnataka functions as a nursery for nursing services not only for the State but also for other regions of India, Gulf countries and Europe.

During 2022-23 an amount of Rs.3932.51 crores is provided in the Budget of which Rs.2932.67 crores is released upto January 2023 for Medical Education. The expenditure incurred is Rs.2334.37 crores. Out of the total allocation productive allocation is Rs.1373.99 crores and productive expenditure incurred is Rs.649.27 crores upto 20th January 2023. Scheme wise progress is as mentioned below:

(Rs. in Crores)

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Directorate of Health and Family Welfare Services (Medical Branch)	51.91	21.66	20.04
Buildings under Medical Education Department	0.50	0.00	0.00
The National Institute of Mental Health and Neuro Sciences, Bangalore	110.82	93.07	78.84
Sanjay Gandhi Institute of Trauma & Orthopaedics	40.99	32.91	37.03
Rajiv Gandhi Super Speciality Hospital, Raichur	10.60	8.47	7.49
PMSSY - Super Speciality Hospital	47.90	47.90	27.87
S.D.S Tuberculosis & Rajiv Gandhi Institute of Chest Diseases	20.99	15.49	14.50
Vijayanagar Institute of Medical Sciences (VIMS) Bellary	193.13	144.85	112.55
Karnataka Institute of Medical Sciences (KIMS) Hubli	223.81	223.81	147.15
Kidwai Memorial Institute of Oncology, Bangalore.	197.26	147.94	144.34
Jayadeva Institute of Cardiology	212.68	159.51	150.21
Fee Concession to SC/ST Students Studying in Private Medical Colleges	6.50	3.25	3.24
Indira Gandhi Institute of Child Health	60.74	45.41	44.64
Nephro Urology Institute	46.49	34.76	31.37
Karnataka Institute of Diabetology	7.25	5.23	3.66
Bangalore Medical College & Research Institute	367.55	367.55	204.38

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Mysore Medical College & Research Institute	219.76	164.82	126.77
Government Dental College & Research Institute, Bangalore	34.53	25.90	20.19
Karnataka Institute of Mental Health & Neuro Science - Dharwad	19.50	14.56	12.15
Hassan Medical College	120.34	89.78	78.38
Shimoga Medical College	105.38	112.43	72.91
Mandya Medical College	107.23	80.28	64.88
Bidar Medical College	90.22	89.52	62.24
Belgaum Medical College	100.53	75.40	69.66
Raichur Medical College	88.07	66.05	64.29
Trauma Care Center, Bangalore	13.92	10.44	6.98
Upgradation of Peripheral Cancer Center at Kalaburagi	9.80	7.35	5.55
Institute of Gastroenterology Sciences	8.61	11.15	7.34
Sri Atal Bihari Vajpayee Medical College and Research Institute	77.86	72.23	56.51
Medical College at Gadag(Medical Colleges-2013-14)	89.35	64.76	60.67
Medical Colleges at Koppala (Medical Colleges-2013-14)	73.78	55.34	54.58
Medical Colleges at Karwar(Medical Colleges-2013-14)	78.04	57.40	49.07
Medical Colleges at Chamarajanagar (Medical Colleges-2013-14)	79.02	59.27	53.89
Medical Colleges at Madikeri (Medical Colleges-2013-14)	70.24	51.55	51.52
Medical Colleges at Kalaburagi (Medical Colleges-2013-14)	122.99	91.12	86.15
Medical College at Haveri	0.38	0.28	0.20
Medical Colleges at Yadgiri	1.17	2.06	1.05
Medical Colleges at Chikkamagalur	2.00	4.28	1.51
Medical Colleges at Chikkaballapura	7.78	14.65	12.07
Towards Corpus Fund for Treatment of Rare Diseases	10.00	10.00	0.00
Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	3.90	0.00	0.00

Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
Super Speciality Hospital-Bellary	1.00	0.00	0.00
Establishment of Trauma Centre at Mysuru and Chitradurga	10.00	0.00	0.00
Establishment of Kidwai as State Level Cancer Centre -Tumkur, Mysuru, Shivamogga and Belagavi	35.00	15.00	0.00
Establishment of Super Speciality Hospital at Gulbarga, Belgaum and Mysore Government Medical Colleges	100.00	59.62	59.62
Establishment of Super Speciality Hospitals at Bengaluru ,Hassan, Chikkamagaluru and North Bengaluru	60.00	45.00	45.00
Construction of 450-Bed Hospital at Indira Gandhi Institute of Child Health	10.00	7.50	7.50
Upgradation of DIMHANS-Dharwad Institute	5.00	0.00	0.00
New Medical Colleges at Gadag, Koppala, Karwar, Chamrajnagar, Madikeri and Kalburgi(New Medical Colleges2013-14)	150.00	71.66	45.85
Sri Atal Bihari Vajpayee Medical College, Research Institute and Hospital Building	16.50	6.30	6.30
Institute of Gastroenterology Sciences	1.00	0.00	0.00
Medical Equipment / Civil Works for District Hospitals and Medical Colleges	50.00	0.00	0.00
CSS - Establishment of Medical College at Chikkaballapura	100.00	60.00	40.00
CSS - Establishment of New Medical Colleges attached with District/Referral Hospitals- CSS(Chikkamagalur,Haveri,Yadgiri)	135.00	27.57	27.57
CSS - Tertiary Care Programmes	5.49	5.47	5.47
CSS - Additional Facilities in Existing Medical Colleges of BMCRI Bengaluru,MMCRI Mysuru, VIMS Bellary and KIMS Hubballi	30.00	4.87	4.87
CSS - New Medical Colleges at Mandya, Hassan, Shivamogga, Raichur, Belguam and Bidar(2006-07)	90.00	47.25	46.32
Grand Total	3932.51	2932.67	2334.37

Source : Avalokana Report as on 20-1-2023

Post Graduate Institutions & Enrolments in the State

Medical Colleges are permitted to provide Post Graduate Courses in the State. They offer Degree and Diploma Courses in various specialties. There are several Super Specialties of which training is imparted in subjects like Cardiology, Cardio Thoracic Surgery, Cardiac Anesthesia, Neurology, Nephrology, Urology, Surgical Gastro Enterology, Plastic Surgery, Medical Oncology and Surgical Oncology. There has been a great demand for specialists, due to which many Medical Graduate of the State who do not get P.G. seats enroll themselves with the National Board of Examinations and qualify as Diplomate of the National Board (DNB). Post Graduate Enrollments for different specialization courses are 5,414 for the year 2022-23.

Major achievements of the Department of Medical Education

1. A 450-bed capacity hospital has been opened in Chamarajanagar where patients are receiving treatment.
2. Steps have been taken to set up 450 bed capacity hospitals in Kodagu & Karwar Institute of Medical Sciences and construction is in progress.
3. Government Medical Colleges have been set up at Haveri, Yadagiri, Chikkamagaluru and Chikkaballapur with central participation and are being started from the current year with a capacity of 150 seats.
4. Steps are being taken to start Post Graduate degrees in Mandya & Hassan Institutes of Medical Sciences.
5. Actions have been taken to start a new department of Fetal medicine & Neonatology at Vani Vilasa Hospital, Bangalore and a grant has been released.
6. Administrative approval has been given to set up cancer centers in Mysore, Shimoga & Tumkur.
7. Administrative approval has been given to construct a 500-bed hospital in 3 phases at Shri Atal Bihari Vajpayee Medical College & Research Institute, Bangalore.

A trauma care center with human resources will be started in the current year at the Mysore Institute of Medical Sciences with the objective of providing emergency treatment to save life in case of accidents.

Mass Education

During 2022-23, 05 literacy programmes are being implemented with the objectives of providing basic literacy to rural and urban slums illiterates of 15-50 age groups with priority to woman SC, ST and Minority groups and to increase the literacy rate of the State. The programme is implemented in the selected Grama Panchayaths of 19 districts which are backward, more backward and most backward as per Dr. D.M. Nanjundappa's Committee Report, with a target of 1.89 lakhs illiterates at a cost of Rs. 622.05 lakhs.

Programs being implemented

- ❑ As per the Hon'ble Chief Minister's budget announcement programme of 1000 fully literate Gram Panchayats for the year 2022-23 and 2023-24.
- ❑ Literacy Program run by Link Grant for the year 2022-23.

- ❑ New India Literacy Program Launched by the Central Government. (Sanctioned from 2022-23 to 2026-27)

The Literacy rate as per 2011 census is 75.36 in the State. 19 districts namely Yadgir, Raichur, Chamarajnar, Kalaburagi, Vijayapura, Ballari, Vijayanagar, Koppala, Bagalkote, Ramanagar, Chikkaballapura, Mandya, Bidar, Mysuru, Belagavi, Chitradurga, Kolar, Gadag and Tumakuru have less than the State Average. **(Map 11.2)**

Similarly, the Female Literacy rate as per 2011 census is 68.08 in the State. But it is less than the State Average in 19 districts which includes all the districts of KK region. **(Map 11.3)**

The department of Mass Education has to take initiatives to improve the literacy rate of these districts on par with the State Average.

Public Library

Karnataka has been the third State in the country to come under Library Act. Under the Act, a network of about 6,890 libraries has been functioning all over the State. During lockdown period due to Covid-19 pandemic, Department of Public Libraries has taken up an ambitious project to modernize the Public libraries with technology and digital infrastructure to bridge the gaps in access to information. This is a first kind of project in the country where a state level initiative has been taken to digitize and provide access for learning in such a large scale. As a result 3,10,79,185 members have registered in Karnataka Digital Public Library portal and have viewed 22,72,899 e-contents as on 27.12.2022.

Considering the achievement of Karnataka Digital Public Library, on 17-01-2022, **WORLD BOOK OF RECORDS LONDON**, has issued a certificate for revolutionary initiatives and bringing drastic changes in public library system. **“e-Sarvajanikagranthalaya”** app is provided for public to view the digital library services through mobile. Links to various websites are provided in Karnataka Digital Public Library portal. More than 10 Lakhs e-contents and educational/national/international videos have been uploaded for the benefit of the public readers.

Department of State Educational Research and Training (DSERT)

The Department of State Educational Research and Training, is the academic wing of the Department of Public Instruction. It aims at providing academic leadership in school education as well as improving the quality of education in primary and secondary schools in the State. It also insures implementation of academic activities as per the recommendations of National Educational Policy-2020.

1. Pre-Service Teacher Education

Pre-Service Teacher Education section as a unit of DSERT functions with the responsibility of formulating and managing pre-service teacher education programmes with the purpose of preparing quality teachers for pre-school and primary school levels. This section plays a pivotal academic and administrative role in the field of teacher education through DPSE, D.El.Ed and DPED courses.

Training/Refresher Course

Organizing and executing refresher courses and workshops to the Principals and Lecturers of all Teacher Education Institutions, as and when the curricula of D.P.S.E, D.El. Ed and D.P.Ed courses are revised or reviewed.

2. Samagra Shikshana Karnataka Primary and Secondary section

Training for primary school teachers based on Guruchetana module Programme. A Guruchetana program has been devised for government school teachers to facilitate learning in classes 1 to 8. In this program, training modules are prepared in Kannada, Hindi, Mathematics, Science, Social Science, Nali Kali. Till now 164 modules have been created in the Guruchetana program and a total of 1,45,738 in-service teachers of classes 1 to 8 have been given TTMS option based training.

Formation of State Level Focus Group: The State Level Focus Group will be constituted as the highest committee to oversee the curriculum design of each stage of 5 + 3 + 3 + 4 design in accordance with the Education Policy. A state-level focus group of 8 to 10 members will be created, consisting of renowned resource persons and content experts.

Secondary stage - There are two subgroups at this stage

- ❑ In the first stage, there will be a separate curriculum revision committee of 10 to 15 members consisting subject experts in maths, science, social science, vocational education, physical education, specialists in various disciplines for grades 9 and 10 comprising the children of age group 14-16.
- ❑ In the second stage, age group of 16-18 is included covering classes 11 and 12. Presently 35 different subjects are taught at this level. At this stage, a syllabus restructuring committee comprising of 10 to 15 members will be formed, comprising of the subject experts of various disciplines.

3. 'Learning Recovery' a Special Programme

In order to bridge the learning gap caused by Covid-19, a special initiative called 'Learning Recovery' has been implemented for the academic year 2022-23 and declared the academic year 2022-23 as the Learning Recovery Year. To compensate this learning loss, learning materials based on learning outcomes have been prepared in 140 titles. It includes Facilitator's Manual for teachers and learning sheets for the use of students. Training was imparted to all government, aided primary and high school teachers and guest teachers of the State. Awareness workshops have been conducted for all the State level and field level officers of the department and progress review meetings are being held at the cluster, block and district levels for effective implementation of the initiative.

4. Sambhrama Shanivara –No Bag Day in Schools

The program intends to nurture positive values within children to build a responsible, independent, sensitive and happy adult. It is a program to engage children in activities that develop the spirit of good citizenship. The children are expected to attend schools without their bags, books or copies.

English Cell

The government of Karnataka started 1000 KPS English medium schools in the year 2019-20 with an objective to bring professional development among Teachers in English language and to help teachers to become reflective practitioners. The English language cell started to strengthen the English Language and English medium teachers.

Programmes of 2022-23 are as detailed below

- ❑ EMTIP 1,2,3 and 4 (6/8/8/8/days) on-going programmes during 2022-23.
- ❑ PDP programmes
- ❑ CELT programmes 30 days programme
- ❑ PGDELT programmes
- ❑ DIEC programmes
- ❑ 14 days Spoken English programme
- ❑ Spoken English MRP Training for KPS School Students

I. Education Technology Section

1. Technology Assisted Learning Programme (TALP)

The Technology Assisted Learning Program is being implemented from 2016-17 with the objective of improving the teaching learning process in government high schools. The initiatives of the project include providing teachers with information technology tools, training in the use of information technology facilities in schools, access to e-content.

DIKSHA Portal: Depending on the class, E-Contents are localized, translated and uploading to DIKSHA portal with the help of trained teachers. Till today 29,581 E-resources are provided to use.

2. The program of State Institute of Science: (Inspire Awards-MANAK)

- ❑ This program is an ambitious program of the Department of Science and Technology, New Delhi. It aims to inculcate a culture of innovation and creative thinking among the school students to meet the current social needs through science and technology.
- ❑ 78,701 Nominations were submitted to Department of Science and Technology New Delhi from Karnataka in 2021-22, of which 7,825 students are selected for the award. DST New Delhi/NIF Gujarat has to organize District/State/National level material exhibition for these students.
- ❑ Nomination process is completed for the year 2022-23 and total number of nominations submitted is 80,663.

ATAL TINKERING LAB

A flagship initiative of the Atal Innovation Mission started in the year 2016 with a vision to 'Cultivate one Million children in India as Neoteric Innovators', Atal Innovation Mission

is establishing Atal Tinkering Laboratories in schools across India. The objective of this scheme is to foster curiosity, creativity and imagination in young minds and inculcate skills such as design mindset, computational thinking and adaptive learning.

568 Atal Tinkering Labs have been established in Karnataka till 2022, out of which 283 are at Government High Schools. Nearby schools are mapped to ATL centers to get the benefits of the Lab.

Printing, Stationery and Publication

The Department of Printing, Stationery and Publications is basically established to cater to the Printing and Stationery requirements of the State Government offices namely Governor's Office, Legislature, Government Secretariat, High Court and Other Govt. Departments. This Department also undertakes the Printing works and supply of Stationery to Government of India Departments namely Chief Election Office, Census Department etc., on chargeable basis.

Major works executed during the year 2022-23

1. Printing and Supply of 15,000 copies of Constitution of India to Social Welfare Department.
2. Printing of Information Handbook 1,21,000 copies, Training Design 500 copies, Saakshara Sandesha Handbook 20,000 copies and Odhona Bareyona Work Book 10,000 copies and to State Rural Development and Panchayath Raj Samsthe.

Challenges and Way Forward

- ❑ An analysis of education sector in Karnataka indicates two basic challenges-high dropout rate and poor quality education. The dropout rate at the secondary level is high compared to upper primary and primary dropout rate.
- ❑ Promoting vocationalization of education is the urgent requirement. As per National Education Policy (NEP Clause 4.26): Every student should be imparted vocational crafts, such as carpentry, electric work, metal work, gardening, pottery making. Internship opportunities to learn vocational subjects may be made available to students throughout Grades 6-12, including holiday periods. Vocational courses through online mode also to be made available. **Establish Centres of Excellence/Skill Development Centres at all Educational institutions.**
- ❑ There are about 75,000 dropout children, it may be useful to transform vocational education within the school in ways that it focuses on developing skill sets with knowledge for all students in secondary school posts 9th grade. Collaborate with NGOs like Labour net & introduce multiple entry and exit options in higher education.
- ❑ Scaling up the model of collaboration with Tata Technologies to upgrade 150 ITIs and Introducing 23 courses.
- ❑ There are 4,687 high schools, out of them, 2150 schools do not have ICT Labs. These to be covered under **TALP** and other **ICT initiatives**. To encourage Science education, establish **STEM labs in Girls' high schools**.

- ❑ Provide Toilet facilities in all schools with priority to schools in talukas in Kalaburagi, Yadgir, Raichur districts. Transport facilities and financial assistance and ensure safe environment at school to increase the enrolment of girls.
- ❑ Establishment of Special Education Zones in educationally backward talukas with **Vocational Education and Skilling Hub (VESH) in every SEZ.**
- ❑ Karnataka's GER (32), is lagging in other southern states, which are all above 35. Tamil Nadu (51.4) leads and is the only state with GER over 50, followed by Kerala (38.8), Telangana (35.6) and Andhra Pradesh (35.2) which is to be increased.
- ❑ Out of a total of 55,408 elementary schools in the State 42,823 schools belong to the Department of Education. About 98.86% of schools of the department possess own buildings.
- ❑ In Elementary Schools 74.79% of classrooms are in good condition. 11.71% classrooms need minor repairs, while 13.50% of classrooms require major repairs. Out of a total of 17,237 Secondary schools in the State, 4,738 belong to the DoE. About 98.37% of schools of the Department possess own buildings.
- ❑ In 2022-23 in the State, 1,47,175 teachers (88.45%) are working in the LPSs and HPSs against the sanctioned strength of 1,66,393. Further, in Aided schools at the elementary stage, 14,083 were working against the sanctioned posts of 16,223.
- ❑ The State Level Focus Group will be constituted as the highest committee to oversee the curriculum design of each stage of 5 + 3 + 3 + 4 design in accordance with the Education Policy. A state-level focus group of 8 to 10 members will be created, consisting of renowned resource persons and content experts.
- ❑ Development of skills - both soft and employable skills - need to be focused on to give more emphasis on vocational education as per the NEP 2020.
- ❑ To establish Skill & Vocational centers in Secondary schools to reduce secondary dropouts.
- ❑ With declining numbers in the 18-23 age groups, the state must ensure access to high-quality education, make it globally competitive, and train a workforce that can work across multiple industries and districts in Karnataka.
- ❑ The process is underway to revise the syllabus of all 33 diploma and 2 post diploma programs and 4 subjects of Junior Technical Schools which are to be revised to the latest needs of the industry, skill based and made employment oriented from the year 2022-23.
- ❑ The start up and IT industries combined will possibly need 15-20 lakh more skilled employees over the next 5 years itself and Karnataka must train and position its young population to capture these opportunities.

11.3 WELFARE OF SCHEDULED CASTES

Background

In its endeavor towards ensuring "faster, sustainable and more inclusive growth", the Government of Karnataka has committed itself to improve capabilities and productive endowments among the economically disadvantaged and socially marginalized sections

of the State. In this direction, the welfare departments and development corporations of the State are implementing several multi-faceted and multi-pronged programs for welfare of SCs, STs, BCs and Minorities and thereby placing them on the path of mainstream of development. It is necessary to take direct and affirmative action when some social groups are found lagging in achievements in these key socio-economic outcomes. Scheduled Castes (SC), Scheduled Tribes (ST) and religious minorities, especially Muslims lag in several socio-economic parameters compared to the general population. Average household incomes and some development indicators for various social groups are summarized below for comparison.

Socio-economic indicators amongst social groups in Karnataka

Indicator	SC	ST	Minority Groups	Others	Gap
Population	17%	7%	Muslim: 12.9% Christian: 1.9% Jain: 0.72% Other :0.2% Total: 15.7%	60.3%	-
Average household income in Rs. (2011-12)	22800	20000	28500 (Muslim); 52500 (Other minorities)	48000	Rs.19500 (Muslims) Rs.4500 (Others)
Literacy rates in 2011(%)	65.3	62.1	68.5 (Muslim)	75	6.5 %

The SC population which was 0.86 crores during 2001 census has been increased to 1.05 crores in 2011 census. As per the projected population for the year 2023 the total SC population is 1.42 crores. Similarly, The ST population which was 0.35 crores during 2001 census has been increased to 0.42 crores in 2011 census and the projected population for 2023 is 0.57 crores. District wise population of SC/ST as per the census 2001, 2011 and projected for the year 2023 is given in **Appendix 11.2**.

The Department of Social Welfare formulates various Programs and Schemes for the upliftment of Scheduled Castes. The department aims to empower Scheduled Castes and make sure their constitutional rights are protected. It implements Social, Economic and Educational Programs and Schemes at State level, District level and Taluk level to achieve its aims. Scheme wise progress achieved during 2022-23(up to 20th Jan 2023) is as detailed below:-

Table 11.3.1 : Scheme wise details of Social Welfare Department for the year 2022-23

Rs. in Crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Director of SC Welfare	13.25	13.64	9.13
2.	Research Institute under Dr. B.R. Ambedkar Birth Centenary Programme	1.35	1.53	0.92

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
3.	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	148.87	111.65	111.66
4.	Dr. Ambedkar Birthday Celebration	0.03	0.02	0.01
5.	Community Irrigation Scheme - Ganga Kalyana	60.00	45.00	45.00
6.	Self Employment Scheme	100.00	75.00	75.00
7.	Micro Credit to S.Cs through Self Help Women Groups (SHGs)	40.00	30.00	30.00
8.	Karnataka Thanda Development Corporation	100.00	75.00	75.00
9.	Karnataka Adi Jambava Development Corporation	100.00	75.00	25.00
10.	Welfare Schemes(Bhovi Development Corporation)	95.00	83.75	83.75
11.	Karnataka State Safai Karmachari Corporation	25.00	23.75	23.75
12.	Coaching & Allied Schemes	7.63	5.87	5.51
13.	Maintenance of new 50 Post Matric Hostels	20.00	15.00	25.00
14.	Repairs to hostels and Residential Schools(KREIS)	20.00	15.00	15.00
15.	Residential School Society	5.00	3.75	2.50
16.	Maintenance of Residential Schools (MDRSs) (KREIS)	533.59	427.34	427.34
17.	Karnataka State Safai Karmachari Commission	3.16	2.53	1.73
18.	Dr. B.R. Ambedkar Housing Scheme (through RGHCL)	200.00	0.00	0.00
19.	Pradhan Mantri Anusuchit Jaati Abhyuday Yojana- PM AJAY(SCA for SCSP)	200.00	0.00	0.00
20.	Various Development Programme for Schedule Caste	362.00	318.38	252.90
21.	Babu Jagjivan Ram Leather Industries Development Corporation	50.00	43.75	5.17
22.	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	23.19	17.39	17.39
23.	Share Capital to Various Corporations	10.00	7.50	7.50
24.	Construction of Hostel and Residential School Buildings (State Scheme)	570.00	385.00	385.00
25.	Various Development Programme for Schedule Caste	320.00	240.00	238.75
26.	Share Capital to Various Corporations	10.00	0.00	0.00
27.	Scholarships to Scheduled Caste students	230.01	175.94	175.94
28.	Maintenance of Post Matric Government Hostels	160.20	173.11	153.95
29.	District SC Office - Administrative Expenses	108.79	103.56	106.75
30.	Residential Schools for SCs	26.29	25.28	24.69
31.	Assistance to College Students, Other Concessions & Assistance to Meritorious Scheduled Caste Students	105.00	103.62	98.34

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
32.	Grant-in-Aid to Private Hostels	10.50	9.17	4.37
33.	Training Centres for Women	0.07	0.00	0.00
34.	Maintenance of Pre-matric Hostels	364.61	378.96	256.98
35.	Payment of Extra Boarding & Lodging Charges	83.46	83.38	18.51
36.	Pre-Matric Scholarship to SC Students(1st to 8th STD-State Scheme)	113.57	108.35	103.76
37.	Nursery-cum-Women Welfare Centres	0.80	0.78	0.33
38.	Incentive to SC Law Graduates	11.35	11.27	4.76
39.	Residential Schools Transferred From Education Department	2.88	2.88	1.76
40.	Sangolli Rayanna Sainik School , Bailhongal	0.04	0.00	0.00
41.	Karnataka State Commission for SCs & STs	2.89	3.10	2.34
42.	CSS - Machinery for Enforcement of Untouchability Offences Act,1955	23.50	22.46	15.91
43.	CSS - Eradication of Untouchability	70.00	35.00	35.00
44.	CSS - Compensation to SC/ST Victims	15.00	11.25	11.25
45.	CSS - Pre-Matric Scholarship to SC Students	120.00	0.00	0.00
46.	CSS - Babu Jagajivan Ram Chhatrawas Yojane	20.00	15.00	15.00
47.	CSS - Post-Matric Scholarships to SC Studentss	3.10	3.10	3.10
48.	CSS - Conducting Seminars and Workshops	2.00	1.00	1.00
49.	CSS - Compensation to SC/ST Victims	15.00	5.36	5.36
		4507.13	3288.42	2902.11

Source:Avalokana

During the year 2022-23, an amount of Rs.4507.13 crores has been allocated, out of which Rs.3288.42 crores have been released and expenditure incurred up to end of 20th Jan 2023 is Rs.2902.11crores. Out of the total allocation, the productive allocation is Rs.4110.58 crores of which Rs.2554.21 crores have been incurred as expenditure up to 20th Jan 2023.

Outcome

Achievements of various schemes implemented by the department for the last five years (2017-18 to 2021-22) are as below:

- ❑ The State has provided Pre-matric Scholarships to 47.58 lakh students,
- ❑ 15.78 lakhs students were provided with Post-matric Scholarships,
- ❑ Prize money was given to 5.33 lakhs meritorious students,
- ❑ Incentives have been given to 250 students studying in foreign universities,
- ❑ Pre-Examination Trainings for various competitive exams have been given to 9443 students,

- ❑ Compensation given to 12308 SC/ST Atrocity Victims.
- ❑ The department is running 671 post-metric hostels and 1231 pre matric, 68 residential schools for SC children studying from 1st to 5th standards.
- ❑ 920 residential schools are run by the Karnataka Residential Education Institutions Society (KREIS) for students from 6th to 10th grade.
- ❑ Providing financial assistance to voluntary organizations for maintenance of 152 pre-metric grant-in-aid hostels in the State.

The Social Welfare Department is implementing several programmes through various Nigams and Corporations. During the year 2022-23, achievements of major schemes is as below: -

- ❑ 1843 persons are benefitted by Self-employment Scheme and I.S.B (Industries Service and Business) Scheme, 1362 by Ganga Kalyana Scheme and 233 by Micro Credit Finance Scheme, through Dr. B.R. Ambedkar Development Corporation for economic upliftment of SC communities
- ❑ 1209 persons are benefitted by Direct Loan Scheme and 550 by Micro Credit Scheme under Karnataka Adijambava Development Corporation
- ❑ 3395 Banjara thandas have been provided basic infrastructure facilities through Karnataka Thanda Development Corporation
- ❑ 4083 persons have been trained through Training Programs, 62 persons benefitted by Infrastructure Development Programs which are implemented by Dr. Babu Jagjivan Ram Leather Industries Development Corporation formed for the overall development of Leather Industry in Karnataka and upliftment of Socio-Economic conditions of the Schedule Caste Leather Artisans.

Scheduled Caste Sub Plan (SCSP)

During the year 2022-23, an amount of Rs.22917.81 crores have been allocated under SCSP for various departments, out of which an amount of Rs.12159.25 crores have been spent up to the end of January 2023 by different departments.

Initiatives taken by the Department of Social Welfare

As per the wishes of the Constitution of India, many important programs of the government for the education, employment and empowerment of the Scheduled Caste community are being approved by the department. Reservation in education and employment for Scheduled Caste community has been increased from **15% to 17%** to enable them to get more opportunities.

- ❑ About 5090 Scheduled Caste Graduate students are trained for various competitive examinations to get employment in Central/State Government Departments.
- ❑ In various corporations of SCs, while implementing self –employment beneficiary Schemes 25% is reserved for women while finalising the beneficiary list.
- ❑ The subsidy given by the corporation for construction of houses for scheduled caste communities has been increased from Rs.1,75,000 to Rs.2,00,000.

- ❑ 70 Scheduled Caste students have been assigned for studying in foreign universities in the current year under the Prabuddha Scheme.
- ❑ Rs.20.00 crores have been allocated to identify and develop 10 places visited by Bharat Ratna Dr. B.R Ambedkar to Karnataka.
- ❑ Around 3474 followers of Dr. B.R Ambedkar were sent to Deeksha Bhoomi, Nagpur, Maharashtra and their travel expenses were borne by the Department.
- ❑ To provide good quality food in post-metric hostels, the existing monthly food charges of Rs.1600/- is increased to Rs.1750/-.
- ❑ Under Dr. Babu Jagjivanaram Tricycle Carriage Vehicle scheme, unemployed youth belonging to SC can purchase a two-wheeler (electric/other) to deliver food and other items to consumers, at Rs.50,000 Subsidy and financial assistance of Rs.25,000 as loan amount.
- ❑ During the current year, it is aimed to impart entrepreneurship training through the institute of Indian Institute of Management (IIM), Bangalore to Scheduled Caste women.
- ❑ Training is being provided to mountaineering course and orientation course at Himachal Pradesh for 92 Scheduled Caste hostellers of Social Welfare Department.
- ❑ The findings and recommendations of the analysis report submitted by CODR on 'SDG 10- Reduced Inequalities-Addressing Socio-Economic Disparities in Karnataka' are mentioned below: -

Findings

- ❑ The HDI score obtained by SC is 0.49, while the overall HDI score for Karnataka is 0.57.
- ❑ All social groups-SC, ST and Minorities have shown comparably low access to improved drinking water, while the overall State average stands at 94%.
- ❑ The SC population have shown the lowest average estimate (96%) in having access to electricity while the overall State average stands at 99.22%.
- ❑ Districts- Yadgir, Gadag and Bagalkot have shown poor performance for all population groups, including SC, ST and Minorities.
- ❑ The Talukas of Bengaluru South, Bengaluru East, Mysuru, Kalaburgi, and Davanagere have a significant concentration of SC population, however, they score below the State average on the Human Development Index for SC, suggesting that these are critical regions.
- ❑ The State denoted inequality in land distribution among the socially backward groups. About 7% (569409) of the SC have marginal land of the total land holding in Karnataka, while only 0.03 % (2798) of the SC have large agricultural land. In the case of ST, 3% (268258) are marginal agricultural landholders, while 0.03 % (3020) are large agricultural landholders.

WAY FORWARD

- ❑ While the overall HDI score for Karnataka is 0.57, however, STs are far behind in HDI (0.44) compared to SC (0.49) and Minorities (0.46). Hence change the Allocation pattern under SCP/TSP & PM 15-point programme with more allocation for human development sectors.
- ❑ Focus on Bidar Taluka where SC & ST dropout is high at secondary education level.
- ❑ SCSP/TSP allocation to focus on over 100 Talukas, which have shown poor performance in human development parameters. To name a few- Vijayapura, Kundgol, Yadgir, Koppa.
- ❑ The SC & ST households without houses should be covered under Dr. B R Ambedkar Vasati Yojane, PMAY and other housing schemes. All the Talukas in Bengaluru Urban District, Talukas in Bellari, Chitradurga, need focused attention.
- ❑ Promote women entrepreneurship in SC/ST Women, 25 percent of the target under self-employment under various corporations and infrastructure in Industrial areas/parks to be reserved for women.
- ❑ Promote women collectives and SC/ST minority women participation in SHG groups.
- ❑ Enable establishment of enterprises, entrepreneurship training to be provided in the prestigious I.I.M. Bengaluru to minimum 250-300 women graduates of schedule caste and schedule tribe & Minorities.
- ❑ Encourage integrated farming system among the SC and ST population, especially those who are marginal agricultural landowners to achieve maximum returns and income from different integrated components, thereby improving their standard of living.
- ❑ Conduct an impact assessment on the SCSP-TSP fund allocation to understand the level of achievement and measure the effectiveness of the programmes to further strengthen the coverage.

Some of the major recommendations of studies conducted by Karnataka Evaluation Authority for the upliftment of SC/STs are as below:

Sl.No.	Study Title	Major Recommendations
1	Evaluation of the Performance of SC/ST Colony Infrastructural Facilities Scheme under the SCSA/TSA for the period of 2014-2015, 2015-2016 and 2016-2017	<ul style="list-style-type: none"> ❑ The SC/ST colony infrastructural facilities scheme in its current form can be linked to other schemes like Rural Water Supply Scheme and Grants for Urban Water Supply Scheme for providing drinking water; Namma Grama Namma Raste Scheme (NGNRY) for laying roads; Trainings and courses- Mountaineering, Pilot license, fitness training and Skill Development Training under Skill Development Mission- community halls or Samudaya bhavans could be used for training purposes; and Development of SC/ST colonies scheme for overall development of the colonies. ❑ A detailed five-year action plan must be prepared to implement the schemes under the SCSP/TSP ❑ The performance of the SC/ST colony infrastructural facilities scheme will be more effective if there is a robust strategy to enable interdepartmental convergence to identify, implement and evaluate the schemes and its impact on the beneficiaries.

Sl.No.	Study Title	Major Recommendations
2	Evaluation of Forestry Works under Special Component Plan (SCP) and Tribal Sub Plan (TSP) for the period 2013-14 to 2016-17	<ul style="list-style-type: none"> ❑ The department should provide another 25% subsidy for LPG connection to all SC/ST families residing within a radius of 5 kms from the edge of the forests. ❑ The department must ensure that all the beneficiaries provided with beehive boxes are properly trained, proper boxes and bee colonies from known source be supplied.
3	Evaluation of National Horticulture Mission 2015- 16 to 2018-19	Discussion with implementing officers revealed that the physical and financial targets for SC/ST beneficiaries are not met, as many of them do not own land. This results in exclusion of these marginal classes from availing the benefits under MIDH. Under such circumstances SC/ST farmers may be allowed to avail benefit if they provide proof of land on registered lease for at least a period of 3 years.

Challenges faced by the department and future prospects

- ❑ A large number of applications are being received for the various programs/schemes implemented for the welfare of scheduled caste are being processed and to be finalized in the respective financial year.

11.4 WELFARE OF SCHEDULED TRIBES

Background

In order to improve productive endowments and exchange entitlements among the ST households, the State Government has been implementing various programmes in social and economic domains. It has been attempted through a) Department of Scheduled Tribes Welfare and b) Karnataka Maharishi Valmiki Scheduled Tribes Development Corporation. Scheme wise progress achieved during 2022-23(up to 20th Jan 2023) is as detailed below: -

Table 11.4.1 : Scheme wise details of Tribal Welfare Department for the year 2022-23

(Rs. in Crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1	Directorate of STs Welfare	5.17	5.56	3.02
2	Research and Training	2.75	3.50	2.11
3	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	84.24	99.24	65.05
4	Ganga Kalyana - for Schedule Tribe	65.00	60.00	60.00
5	Self Employment Scheme	70.00	65.00	15.00
6	Micro Credit to S.Ts through Self Help Women Groups (SHG)	50.00	42.50	42.50

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
7	Coaching & Allied Schemes for ST Students	5.00	5.00	5.00
8	Upgradation of Merit of ST Students	15.00	18.69	11.87
9	Morarji Desai Residential Schools (MDRSs) and Maintenance of Kittur Rani Chenamma Residential School(KREIS)	146.40	146.40	110.90
10	Housing Scheme of Karnataka Maharshi Valmiki ST Development Corp Ltd. (through RGHCL)	100.00	75.00	75.00
11	Schemes Under Article 275(1) of The Constitution	50.00	10.18	6.89
12	Special Central Assistance For Tribal Sub Plan	50.00	30.77	30.77
13	Various Development Schemes for Scheduled Tribes	214.00	218.66	197.20
14	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	2.10	2.10	1.57
15	Construction of Ashram Schools & Hostels(State Scheme)	3.00	3.00	2.25
16	Construction of Residential Schools	275.00	248.00	206.25
17	Various Development Schemes for Scheduled Tribes	50.00	50.00	45.00
18	Maintenance of Hostels for ST Students	44.27	44.25	42.19
19	Maintenance of Aashram Schools	36.95	36.63	38.37
20	Hostels Scholarships and Financial Assistance	107.34	103.38	103.06
21	Maintenance of Post Metric Government Hostel Buildings	4.31	2.52	1.75
22	Tribal Area Sub-plan	5.07	5.46	5.48
23	Executive Establishment - District Tribal Welfare Office	12.78	13.10	11.89
24	Grant-in-Aid to Private Hostels	1.55	1.75	0.18
25	Women Wel-fare Centres	0.04	0.04	0.04
26	Scheme for Development of Scheduled Tribes - Pre Matric Scholarship	53.82	51.73	27.67
27	Infrastructure Development in Scheduled Tribe Colonies	0.85	0.85	0.36

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
28	Payment of Extra Boarding & Lodging Charges to Post Metric Students	28.80	28.00	15.94
29	Maintenance of Pre Metric Government Hostel Buildings	1.13	1.10	0.21
30	CSS - Hostel and School Construction	3.00	3.00	3.00
31	CSS - Post-Matric Scholarships to ST Students	151.25	49.56	49.56
32	CSS - Pre-Matric Scholarship to ST Students	20.34	4.33	4.33
33	CSS - Development of Particularly Vulnerable Tribal Groups	25.00	0.00	0.00
	Total	1684.16	1429.30	1184.41

Source:Avalokana

During the year 2022-23, an amount of Rs.1684.16 crores have been allocated, out of which Rs.1429.30 crores have been released and expenditure incurred up to end of December 2022 is Rs. 1184.41 crores. Out of the total allocation, the productive allocation is Rs.1616.09 crores of which Rs.1118.87 crores have been incurred up to 20th Jan 2023.

Physical Achievements of various schemes implemented by the Tribal Welfare Department for the last two years (2021-22 to 2022-23(Nov-22)) are as below:

Physical progress of schemes for the years 2021-22 and 2022-23 (upto Nov-22)

Sl. No.	Scheme	Unit	Physical progress
1	Admission of Meritorious ST students in Prestigious Schools	Students	6900
2	Pre-matric Scholarship	Students	714881
3	Post-matric Scholarship	Students	239138
4	Provision of cash incentive	Students	68256
5	Prize Money to Meritorious Students	Students	466638
6	Construction of residential schools	Schools	25
7	Construction of hostels and residential schools	Hostels	6
8	Maintenance of Moraji Desai Residential Schools	Schools	144
9	Construction of Valmiki Bhavans	Bhavans	318
10	Nutrition program for Aborigines	Families	43171
11	Prabuddha Scheme	Students	72
12	Grant for Admission in National Institution	Students	45
13	Prize Money	Students	185

The department is implementing various developmental schemes for the economic development of Scheduled Tribes households through Karnataka Maharshi Valmiki Scheduled Tribes Development Corporation. During the year 2022-23 (up to the end of Nov-22) 108 persons are benefitted under Self-Employment Scheme, 770 under Industrialists, Service and Business scheme, 280 under Micro Credit Scheme, 337 under Land Purchase Scheme, 1594 under Ganga Kalyana Scheme.

Reservation in education and employment for Scheduled Tribe community has been increased from 3% to 7% to enable them to get more opportunities.

Tribal Sub Plan

During the year 2022-23, an amount of Rs.9358.20 crores (including Supplementary Estimation and Opening Balance) have been allocated under TSP for various departments, out of which an amount of Rs.4979.36 crores have been spent up to the end of January 2023 by different departments.

11.5 WELFARE OF BACKWARD CLASSES

Background

The Backward Classes (BCs) constitute major chunk of population who are also deprived of educational and economic advancement in the state. Therefore, the Department of Backward Classes Welfare and the D. Devaraj Urs Backward Classes Development Corporation (DBCDC) have been implementing various developmental programmes for socio-economic welfare of the Backward Classes in the state. Scheme wise progress achieved during 2022-23 (up to 20th Jan 2023) is as detailed below:-

Table 11.5.1 : Scheme wise details of Programs of Backward Classes Welfare Department for the year 2022-23 (Rs. in crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Karnataka Veerashaiva-Lingayata Development Corporation	100.01	100.00	0.00
2.	Karnataka Vokkaliga Community Development Corporation	105.00	105.00	105.00
3.	Director of Backward Classes	11.37	6.66	4.84
4.	Vividha Samudayagala Abhivridhi	261.26	182.71	0.00
5.	Unspent SCSP-TSP Amount as per the SCSP-TSP Act 2013	0.03	0.02	0.02
6.	Nomadic / Semi-Nomadic Tribes Development Programmes	3.07	2.85	1.87
7.	Karnataka Backward Classes Commission	3.12	2.18	1.51
8.	D. Devaraja Urs Backward Classes Development Corporation Limited	200.00	50.00	0.00
9.	Vishwakarma Abhivruddhi Nigama	25.00	20.00	5.00

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
10.	Krantiveera Sangolli Rayanna Kshetra Abhivrudhi Pradhikara	52.53	80.49	80.49
11.	Assistance to Nijasharana Ambigara Chowdaiah Development Corporation Ltd.	25.00	5.50	0.00
12.	Assistance to Karnataka Uppara Development Corporation Ltd.	15.00	11.25	3.75
13.	Devaraj Urs Research Institute and other Programmes	1.49	1.23	2.63
14.	Training, Awareness and Incentives to BC Students	30.00	11.76	5.17
15.	Post-Matric Scholarship to Backward Classes Students	65.08	48.81	48.81
16.	Starting of new Backward Classes Hostels & Maintenance	124.84	95.83	65.69
17.	Starting and Maintenance of New Morarji Desai Residential Schools for Backward Classes(KREIS)	207.88	131.38	215.65
18.	Backward Classes Welfare Department - Taluka Office	34.41	30.11	25.50
19.	Food and Accomodation Assistance-Vidyasiri	150.00	0.00	0.00
20.	Construction of Residential Schools - Navodaya Pattern	30.00	37.64	37.64
21.	Construction of Hostel Buildings (BCW Department)	204.00	102.58	38.37
22.	NABARD works 2019-20	2.00	0.00	0.00
23.	Construction of Devraj Urs Bhavan (Taluk Office)	2.00	0.54	1.00
24.	Maintenance of Backward Class Hostels	771.91	718.04	754.09
25.	Fees Concession to OBCs	400.00	358.10	263.77
26.	Executive Establishment	21.05	21.03	21.88
27.	Maintenance of Backward Class Hostel Buildings	15.00	11.64	4.55
28.	Ashram Schools	3.83	2.78	2.33
29.	Late Sri. Devraj Urs' Birth Day Celebrations and Seminar on Fifteen Point Programme	0.31	0.29	0.31
30.	Stipend to Advocates	5.61	5.43	4.92
31.	Grant-in-aid to Orphanages	7.38	7.01	1.43
32.	Backward Class Taluk Extension Offices	16.24	17.27	7.16

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
33.	Tailoring Training Centres	0.55	0.53	0.06
34.	CSS - Construction of Hostels for OBC Students	7.50	0.00	0.00
35.	CSS - Pre-Matric Scholarship to Backward Classes Students	40.00	9.38	6.25
	TOTAL	2942.47	2178.04	1709.69

Source: Avalokana

During the year 2022-23, an amount of Rs.2942.47 crores has been allocated, out of which Rs. 2178.04 crores have been released and expenditure incurred up to end of December 2022 is Rs. 1709.69 crores. Out of the total allocation, the productive allocation is Rs.2141.01 crores of which Rs.1200.60 have been incurred as expenditure up to 20th Jan 2023.

Achievements

During the year 2022-23(up to Nov-22), 39865 students are benefitted by 133 Moraji Desai Residential Schools, 960 students by 16 Ashrama Schools, 175316 students by Pre-matric & Post-matric Hostels and 1068 Law Graduates have been given stipend for 4 years training under a Senior Advocate/ Government Pleader.

11.6 WELFARE OF MINORITIES

In order to promote and uplift Minority Communities like Muslims, Christians, Jains, Sikhs, Buddhist and Parsis on par with other Communities, the following developmental schemes are being implemented by Directorate of Minorities. Scheme wise progress achieved during 2022-23(up to 20th Jan 2023) is as detailed below:-

Table 11.6.1: Scheme wise details of Minorities Welfare Department for the year 2022-23
(Rs. in crores)

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1.	Karnataka State Wakf Board	20.24	15.18	6.67
2.	Protection of Wakf Property in Karnataka State	12.00	9.00	4.46
3.	Improving Infrastructure at Minority Pilgrimge Places	2.00	1.50	1.13
4.	Remunerations to Pesh Imams & Mouzan of Wakf Institutions	55.00	41.25	15.66
5.	Director of Minorities	16.71	12.53	10.32
6.	Minorities Development Corporation	90.00	80.00	30.00
7.	Development of Christian Community	50.00	18.14	18.60
8.	Development of Jain, Buddhist and Sikh Community	35.00	10.82	9.00

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
9.	Annual allowance and Tasdik to Minority Religious Institutions	4.17	3.13	0.00
10.	Development Programme for Various Communities	12.00	6.78	6.50
11.	Teaching and Learning Aid to Govt. Minority Schools	5.00	3.58	2.70
12.	Incentive for Minority Students	8.00	4.30	2.61
13.	Scholarship for Minorities and Fee Reimbursement	75.00	50.86	48.56
14.	Vidyasiri Scheme for Minority Students	25.00	4.71	0.00
15.	Training for Competitive Exams for Minorities	5.00	7.13	2.54
16.	Providing Quality Education in Madrasas (SPQEM)	8.00	4.80	2.99
17.	Karnataka Urdu Academy	1.00	0.75	0.75
18.	Opening of New Hostels for Minorities and Maintenance of Moulana Azad Schools/Colleges	113.47	103.63	63.23
19.	Minorities Residential Schools	203.27	188.52	154.26
20.	Minority Slums/Colony Development Programme in 11 Corporations	100.00	28.25	3.00
21.	Karnataka Minorities Development Corporation	20.00	15.00	15.00
22.	Construction of Hostel and Residential School Buildings for Minorities, Minority Office Complexes, Urdu Convention and Cultural Centre	200.00	146.46	117.92
23.	Hostels for Minorities	88.45	85.80	83.60
24.	Stipend to Law Graduates of Minorities	0.59	0.57	0.49
25.	GIA to Minorities Orphanages	5.03	6.19	2.84
26.	Executive Establishment	14.97	15.38	14.05
27.	CSS - Pradhan Mantri Jana Vikas Program	400.00	100.04	100.04
	Total	1569.90	964.30	716.92

Source: Avalokana

During the year 2022-23, an amount of Rs. 1569.90 crores have been allocated, out of which Rs. 964.30 crores have been released and expenditure incurred up to end of December 2022 is Rs. 716.92 crores. Out of the total allocation, the productive allocation is Rs.1238.05 crores of which Rs.506.09 crores have been incurred as expenditure up to 20th Jan 2023.

ARIVU' (Education loan scheme), Ganga Kalyana Scheme (Community Irrigation Scheme), Shramashakthi Scheme, Self-Employment Scheme, Subsidy Scheme for Taxi/Goods/Auto Rikshaw purchase are implemented through Karnataka Minorities Development Corporation.

The findings and recommendations of the analysis report submitted by CODR on 'SDG 10- Reduced Inequalities-Addressing Socio-Economic Disparities in Karnataka' are mentioned below: -

Findings:

- ❑ The HDI score obtained by Minorities is 0.46, while the overall HDI score for Karnataka is 0.57.
- ❑ All social groups-SC, ST and Minorities have shown comparably low access to improved drinking water, while the overall State average stands at 94%.
- ❑ Minorities have shown the highest deprivation in under-5 mortality rates with 52.58 per 1000, which is almost double the overall State average (21.18 per 1000)
- ❑ Across all social groups, education is a matter of concern since the literacy rate of minorities is comparably lower (less than 50%) than the overall State average which stands above 70%.
- ❑ Districts- Yadgir, Gadag and Bagalkot have shown poor performance for all population groups, including SC, ST and Minorities

WAY FORWARD

- ❑ Strengthen the 15-point programme to increase minority literacy rates, improve skill development, and prepare minorities to reap the benefits of opportunities to build resilient living.
- ❑ The government should strengthen the post-matric scholarship programme for minorities. While it has been noted that the Social Welfare Department provides merit scholarships of up to 25,000/- for SC and ST students. However, the scholarship provided to minorities is around 10,000/-.

11.7 PROGRAMMES FOR THE EMPOWERMENT OF DIFFERENTLY ABLED & SENIOR CITIZENS

I. Differently Abled

11.7.1: As per 2011 Census the population of the Differently Abled persons is 13,24,205 which constitutes 2.16% of the State total population. In order to bring all kinds of Differently Abled persons to the main stream of the society the Department of Empowerment of Differently Abled and Senior Citizens has been established in 1988 through which different schemes are being implemented.

For 2022-23, an amount of Rs. 235.47 Cr. is earmarked in the budget of which of Rs 113.26 Cr. is released upto the end of November 2022. The expenditure incurred is Rs.94.35 Cr

Schemewise progress details is as shown below :

Rs.in Crore

Sl. No.	Scheme Name	Allocation (BE+SE)	Release	Total Expenditure
1	Social Service Complex-Anupalana Gruha-Manasa Kendra	2.09	1.61	1.38
2	Directorate for Disabled	3.96	2.84	1.73
3	Deaf and Blind Government Schools	1.28	0.78	0.54
4	Scholarship to the Physically Handicapped	6.25	0.00	0.00
5	Commissionerate for Persons with Disability Act - 1995	0.96	0.54	0.28
6	Hostels for Disabled Females	3.09	1.43	1.28
7	Aids and Appliances for the Disabled	17.81	2.81	0.96
8	NPDRP Programme for the Disabled	67.64	38.78	37.21
9	Placement Cell of the Different Abled	0.05	0.00	0.00
10	Welfare of Physically & Mentally Challenged	24.41	18.53	14.27
11	Senior Citizen Policy	4.11	2.11	1.87
12	Financial Assistance to Special Schools for Physically Challenged run by NGO's	81.49	24.79	20.98
13	Maintenance of Disabled Department Buildings	1.00	0.14	0.00
14	Non-Government Institutions for Physically Handicapped	17.65	16.14	12.04
15	Voluntary Organisation for Care of the Old Infirm & Diseased	3.68	2.76	1.81
	Total	235.47	113.26	94.35

Achievements during 2022-23 (upto the end of November 2022)

- ❑ An amount of Rs 12.04 Cr. financial assistance is provided to 34 GIA schools and vocational training centers run by the NGO's under the Financial Assistance to NGO's to run GIA 1982 Special schools.
- ❑ Under Sadhane and Prathibe scheme Rs. 50,000/- is provided for the persons with disabilities who participate in National and International sports events and Rs. 20000/- for the persons participating in cultural activities. 32 beneficiaries were provided Rs. 0.17 Cr.
- ❑ 144 persons with no disabilities who married Differently Abled men and women were provided with Rs. 0.72 Cr. of incentives out of Rs. 2.00 Cr. provided in the budget under incentive scheme.

- ❑ 25 children are taken care in “Day Care Centers” with an expenditure of Rs.0.18 Cr. out of 0.50 Cr. earmarked in the budget.
- ❑ 3,58,425 Unique Disability Identity Cards for the disabled (UDID) were issued as against 6,84,542 applications received.
- ❑ 5090 Braille books are printed at Government Braille Printing Press, Mysore and supplied to visual impairment students.
- ❑ The Human Development Index for Disabled which was 0.19 in 1999-2000 has been increased to 0.25 in 2011-12.

II. Senior Citizens

As per 2011 Census, the population of the Senior Citizen is 47.18 lakhs which constitutes 7.72% of the State total population and the Projected population for 2023 is 77.07 lakhs.

Achievements During 2022-23 upto the end of November 2022

To ensure the provisions of high quality of life to Senior Citizens Government has formulated State Policy for Senior Citizens with an objective,” to protect them by providing Economic Security, Health Care and against exploitation and ill treatment and to formulate programme for Senior Citizens living in rural areas to ensure that they also get the benefits that their counter parts in urban areas”.

- ❑ Rs. 1.81 Cr. financial assistance is provided to NGOs’ to run Old age home. There are 31 Old Age Homes in the state, at the rate of 25 beneficiaries in each home.
- ❑ 140 Senior Citizens are accommodated in 22 Day Care Centers at the district level to lead healthy and comfortable life during day time with their friends under Day care center scheme.
- ❑ Out of 18,200 applications received from Senior Citizens, 16,061 ID cards have been issued.
- ❑ The Human Development Index for elderly persons is increased to 0.56 in 2011-12 from 0.43 in 1999-2000 indicating their better positions.

WAY FORWARD

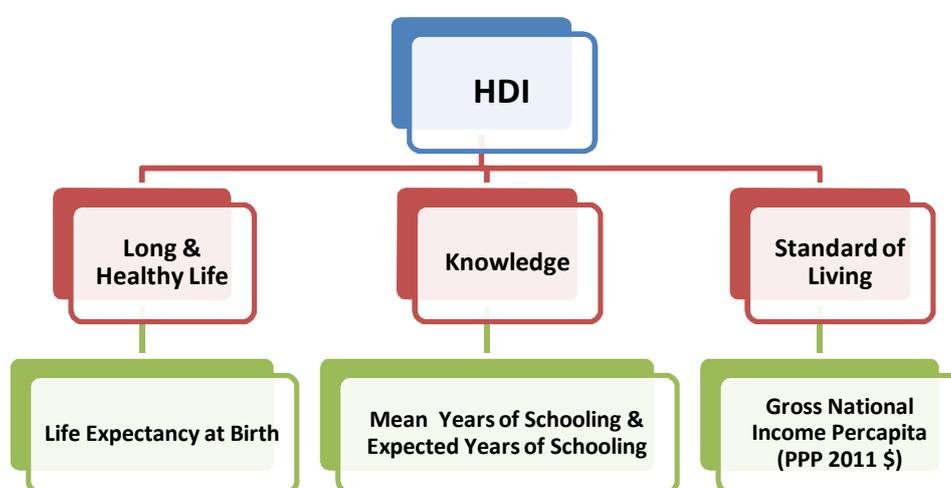
- ❑ As per 2011 Census, population of differently abled person is 13,24,205 which includes only 7 types of disabilities as notified. Government of India has notified 21 disabilities on 19.04.2017. Hence the department has to undertake the periodical survey of Differently Abled persons, based on 21 types of notified disabilities in all the districts in co-ordination with the Health and Family Welfare Department to bring each and every one of them, socially and economically into the main stream of the society.
- ❑ Hostels are to be constructed, to provide subsidized/ free boarding and lodging facilities for working women & students with Differently Abled in all the district headquarters.
- ❑ All the persons with mental retardation are to be provided with Rehabilitation centres in the district headquarters.

11.8 HUMAN AND GENDER DEVELOPMENT

Introduction

Human Development concept richly contributed for human wellbeing. UNDP states that human development approach focuses on people, their opportunities and choices. Hence human development emphasizes mainly on health, education and standard of living (Fig 11.8.1). It also includes other dimensions like gender, child, poverty, food security, region, religion, caste, ecology and environment development throughout the life cycle or life span, etc.

Fig 11.8.1 : HDI 3 major indicators measured by UNDP



The efforts to quantify the qualitative results of human development processes has taken the forms of many such HD-Indices as Human Development Index (HDI), Inequality Adjusted Human Development Index (IAHDI), Gender Inequality Index (GII), Multi-dimensional Poverty Index (MPI) etc.

HDI provides a single measure capturing three basic dimensions of human development viz., health, education and living standards. In HDI, economic welfare is given more importance than economic growth. It emphasizes that the individual's capabilities must be the ultimate criteria for assessing the development of the country.

As per UNDP 2014 HDR report, India ranked 135 among 187 countries with HDI value of 0.586 belonging to medium development countries. Among the states Kerala had highest value 0.693, Bihar ranks the lowest with the value being 0.536. Karnataka stands in 8th position among 20 major states with the value being 0.611.

HUMAN DEVELOPMENT REPORTS IN KARNATAKA – AN OVERVIEW

Karnataka has been a pioneering State in addressing the issues concerned to human development through various policy initiatives consequent upon the preparation of human development reports at various levels over the years. The first Karnataka State Human Development Report (KSHDR) was published in 1999 which helped the State to realize the existence of sharp socio-economic disparities between districts. The second

KSHDR brought out in 2005 provided a comprehensive analysis of district human development goals and outcomes especially for vulnerable sections and also examined the efficacy of service delivery mechanisms.

The third Karnataka State Human Development Report, 2015 brought out with a specific theme on “Accelerating Equitable Human Development”. The approach was to assess inclusiveness of human development across caste, class, gender, regions and social groups and accelerate the process.

The preparation of Fourth Karnataka State Human Development Report, 2022 – “Bridging the Gaps towards sustainable wellbeing” is in final stage. The report is being presented with a specific action-oriented agenda to reach the human development milestones in Sustainable Development Goals. The effort is to explore the strategies and policies that help to bridge the gaps and promote sustainable wellbeing at micro level.

HDI AT STATE LEVEL

To understand the relative position of different Indian States and Subsequently districts of Karnataka in global context, HDI is estimated using international goal posts set by UNDP for the year 2019 as mentioned below.

The global goalposts set by UNDP

Dimension	Indicator	Minimum	Maximum
Health	Life Expectancy (years)	20	85
Education	Expected years of schooling	0	18
	Mean years of schooling	0	15
Standard of living	Gross national Income per capita (2017 PPP\$)	100	75000

Source: UNDP, Karnataka Human Development Report-2022(Provisional).

Karnataka’s performance in human development has been improving over the years in terms of HDI value.

HDI at District Level

For computation of Human Development Index for district level, indicators namely: Life expectancy at birth, Mean years of schooling, Expected years of schooling and Gross national income per capita set by UNDP is used.

Karnataka Human Development Index for the year 1999, 2007-08, 2015 and 2022 are as mentioned below.

Year	Index	Rank among States
1999	0.432	10
2007-08	0.519	10
2015	0.611	8
2022	0.644	11

Karnataka is in medium Human Development range (0.550-0.699) and rank is more or less stable between 10 & 11, but the index has improved significantly from 0.432 to 0.644. It implies that, the state's achievement in human development has increased from 43% to 64.4%. It is well above the national average in all the years.

Human Development Index-2022 across the districts of Karnataka is furnished below.

Districts	Health Index	Education Index	Income Index	HDI	Rank
Bengaluru Urban	0.770	0.678	0.770	0.738	1
Dakshina Kannada	0.757	0.595	0.720	0.687	2
Chikkamagaluru	0.770	0.576	0.672	0.668	3
Udupi	0.760	0.566	0.684	0.665	4
Kodagu	0.768	0.619	0.616	0.664	5
Mandya	0.764	0.575	0.607	0.644	6
Bengaluru Rural	0.762	0.557	0.625	0.643	7
Ramanagar	0.761	0.565	0.615	0.642	8
Kolar	0.771	0.599	0.567	0.640	9
Shimoga	0.755	0.547	0.623	0.636	10
Uttara Kannada	0.775	0.556	0.586	0.632	11
Bagalkot	0.774	0.542	0.594	0.629	12
Chikkaballapur	0.768	0.577	0.558	0.628	13
Mysore	0.759	0.557	0.577	0.625	14
Hassan	0.769	0.528	0.598	0.624	15
Gadag	0.767	0.563	0.559	0.623	16
Tumkur	0.759	0.506	0.606	0.615	17
Bellary	0.730	0.523	0.601	0.612	18
Dharwad	0.708	0.533	0.601	0.610	19
Belgaum	0.751	0.546	0.529	0.601	20
Chamarajanagar	0.776	0.488	0.573	0.601	21
Bidar	0.772	0.532	0.527	0.600	22
Vijayapura	0.771	0.524	0.532	0.599	23
Chitradurga	0.757	0.519	0.541	0.597	24
Koppal	0.765	0.520	0.524	0.593	25
Davangere	0.749	0.508	0.538	0.589	26
Haveri	0.762	0.446	0.533	0.566	27

Districts	Health Index	Education Index	Income Index	HDI	Rank
Raichur	0.742	0.448	0.535	0.562	28
Kalaburagi	0.726	0.420	0.514	0.539	29
Yadgir	0.764	0.382	0.533	0.538	30
Karnataka	0.759	0.555	0.634	0.644	

Source: Karnataka Human Development Report -2022 (Provisional).

Bengaluru urban stands highest in terms of Human development achievement at district level and will be categorised as district with high human development as per UNDP international comparison. Followed by Dakshina Kannada, Chikkamagaluru, Udupi and Kodagu are the top 5 districts with higher human development achievements. Yadgir, Kalaburagi, Raichur, Haveri and Davanagere are the bottom 5 districts with low human development performance.

District wise HDI value for two periods during 2015 & 2022 is furnished below:

Sl. No	Districts	2015		2022		Sl. No	Districts	HDI			Rank
		HDI	Rank	HDI	Rank			2015	Rank	2022	
1	Bagalkot	0.5513	24	0.6290	12	16	Haveri	0.5390	28	0.5660	27
2	Belgaum	0.5794	18	0.6010	20	17	Kalaburagi	0.5342	29	0.5390	29
3	Bellary	0.5446	26	0.6120	18	18	Kodagu	0.6816	2	0.6640	5
4	Bengaluru Rural	0.6484	4	0.6430	7	19	Kolar	0.6266	7	0.6400	9
5	Bengaluru Urban	0.7392	1	0.7380	1	20	Koppal	0.5510	25	0.5930	25
6	Bidar	0.5651	22	0.6000	22	21	Mandya	0.5986	14	0.6440	6
7	Chamarajanagar	0.5683	21	0.6010	20	22	Mysore	0.6204	9	0.6250	14
8	Chikkaballapur	0.6072	13	0.6280	13	23	Raichur	0.5399	27	0.5620	28
9	Chikkamagaluru	0.6360	5	0.6680	3	24	Ramanagar	0.5916	15	0.6420	8
10	Chitradurga	0.5597	23	0.5970	24	25	Shimoga	0.6101	10	0.6360	10
11	Dakshina Kannada	0.6636	3	0.6870	2	26	Tumkur	0.5807	17	0.6150	17
12	Davanagere	0.5827	16	0.5890	26	27	Udupi	0.6313	6	0.6650	4
13	Dharwad	0.6235	8	0.6100	19	28	Uttara Kannada	0.6099	11	0.6320	11
14	Gadag	0.5715	20	0.6230	16	29	Vijayapura	0.5757	19	0.599	23
15	Hassan	0.6081	12	0.6240	15	30	Yadgir	0.4954	30	0.538	30

Source: KSHDR 2015 and 2022 (Provisional)

The above table provides the comparison of district wise HDI over two periods 2015 and 2022. All the districts witnessed an improvement in human development except Kodagu, Dharwad and Bengaluru Rural districts which shows marginal decline in HDI.

HDI at Taluka Level

For computation of Taluka level Human Development Index the following indicators are used

Standard of living

- Percentage of HHs having access to modern cooking fuel like LPG, electricity, gas etc
- Percentage of House Holds having access to toilet within the premises
- Percentage of House Holds having access to safe drinking water
- Percentage of House Holds having access to electricity
- Percentage of House Holds having access to pucca houses
- Percentage of non-agricultural workers
- Per Capita Income (GDP) at constant prices

Health

- Under 5 mortality per 1000 live births
- MMR (per 1 lakh) live births
- Number of mothers who had at least 4 antenatal care visits

Education

- Male Literacy Rate
- Female Literacy Rate
- Gross Enrolment Rate (Elementary)
- Gross Enrolment Rate (Secondary)

The top five HDI taluks are Bengaluru South, Bengaluru East, Bhatkala, Anekal and Yelahanka, conversly the botom five are Hunisigi, Sedam, Shorapur, Chittapur and Shahabada.

Engendering Human Development in Karnataka

(A) Gender-wise Population

It is a good sign that Karnataka is inching close towards the ideal state of equal numbers and ratio with not much significant Female Deprivation / Disadvantage Factor (FDF), in terms of gender-wise population. As per the Karnataka at a Glance 2019-20 report, Karnataka state projected population-2021 is 7,19,57,278, male projected population is

3,64,98,889 and female projected population is 3,54,58,389 with female disadvantage factor -0.027. Tables from Table 11.8.1 to 11.8.3 clearly exemplify this trend, though the State is little behind when compared to other major southern states, sex ratio being relatively low. Further, it can be noted that the sex ratio in urban Karnataka is lower than in the rural Karnataka, though the trend is slowly changing.

Table 11.8.1: Population in Karnataka, Major Southern States & India

State	Population 2011			% Share of Female	FDF
	Total	Male	Female		
Karnataka	61095297	30966657	30128640	49.3	-0.028
Andhra Pradesh	84580777	42442146	42138631	49.8	-0.007
Kerala	33406061	16027412	17378649	52.0	0.078
Tamil Nadu	72147030	36137975	36009055	49.9	-0.004
India	1210854977	623270258	587584719	48.5	-0.061

Source: Census of India 2011 Note: Female Deprivation/Disadvantage factor, (FDF)=(F-M)/F, Kerala women outnumbering to men

Table 11.8.2 : Sex Ratio at Birth - Karnataka & India

State	Sex Ratio at Birth				
	2012-14	2013-15	2014-16	2016-18	2018-20
Karnataka	950	939	935	924	916
India	906	900	898	899	907

Source: SRS Bulletins

There is a growing concern about the declining Sex Ratio at Birth to 916 in 2020 SRS report. There is an urgent need to implement the promotional schemes like Beti Bachao Beti Padhao and Bhagyalaxmi to improve the Sex ratio at birth.

(B) Child sex ratio

Table 11.8.3: Child Sex Ratio - Southern States and India (1971 to 2011)

State	Census Years					Diff from 1971 to 2011	Sex Ratio change 2001 to 2011
	1971	1981	1991	2001	2011		
Karnataka	978	975	960	946	948	30	2
Andhra Pradesh	990	992	975	961	939	51	-22
Kerala	976	970	958	960	964	12	4
TamilNadu	974	967	948	942	943	31	1
India	964	962	945	927	919	45	-8

Source: Decadal Census Data - Census of India, 2011

With reference to child sex ratio, though there is a slight improvement over the last decade, the concern is that State has a long way to go in attaining the fair gender equality (**Tables 11.8.3**). The state is in a relatively better position compared to Tamil Nadu; However, compared to Kerala, it is lower. Therefore, necessary measures should be taken to prevent this negative trend.

Gender and Health

Life Expectancy (LE)

Table 11.8.4: Life Expectancy in Karnataka, 2011-15 to 2015-19

Years	Total			Male		Female	
	Karnataka	India	Difference in years	Karnataka	India	Karnataka	India
2011-15	69.0	68.3	0.7	67.2	66.9	70.9	70.0
2012-16	69.1	68.7	0.4	67.6	67.4	70.7	70.2
2013-17	69.2	69.0	0.2	67.7	67.8	70.8	70.4
2014-18	69.4	69.4	0	67.9	68.2	70.9	70.7
2015-19	69.5	69.7	-0.2	67.9	68.4	71.3	71.1

Source: Office of the Registrar General of India, Various Years, Abridged Life Tables

Life Expectancy is one of the key indicators of health. On biological terms, women are usually expected to have a greater Life Expectancy than men. The same is demonstrated in case of both Karnataka and India (**Table 11.8.4**).

11.8.7. Gender and Literacy & Education

(A) Literacy

Table 11.8.5: Gender-wise Literacy in Karnataka (In percentages)

Details	1971	1981	1991	2001	2011
Male	41.62	48.81	67.26	76.29	82.47
Female	20.97	27.71	44.34	57.45	68.08
Difference (F-M)	-20.65	-21.10	-22.92	-18.84	-14.39
FDF	-0.98	-0.76	-0.52	-0.33	-0.21

Source: Census of various years

The gender disparity with respect to literacy in the State has been gradually decreasing over the decades reflecting a healthy sign (Table 11.8.5).

B) Educational Attainment

The gender-wise educational attainment, according to the All India Survey on Higher Education 2019-20, shows that the female deprivation/ disadvantage factor is high in Ph.D and Diploma level when compared to Post Graduate and Under Graduate levels is a matter of genuine concern at both India and Karnataka. (Table 11.8.6).

Table 11.8.6: Gender Distribution across various levels of Education (Regular Mode) in India and major southern States

State	Ph. D		Post Graduate		Under Graduate		Diploma	
	M	F	M	F	M	F	M	F
Andhra Pradesh	3837	2879	88923	85176	671286	602648	92704	59683
Karnataka	8422	6566	86081	111740	828434	847140	113133	80208
Kerala	2817	4687	21928	69228	287531	410502	41458	30502
Tamil Nadu	15816	14823	101932	180859	1094717	1194788	279043	55406
Telangana	3507	2001	65433	82606	511433	552425	60259	45165
All India	111400	91049	1355452	1835637	13817639	13911801	1681882	870620

Source: AISHE (2019-20)

11.8.8 Gender and Employment

Against gender parity in employment for Karnataka, Tables from 11.8.7 to 11.8.10 present a mixed trend of both gradual but very slow movement towards gender equality and also prevailing glaring female deprivation/ disadvantageous situation. This trend is visible more glaringly even in the high profile employment categories of judges and bureaucrats. Concerted efforts should, therefore, be effectively carried out to ensure the removal of gender discrimination at all levels.

Table 11.8.7: Work Participation rate in Karnataka & India

State/ Country	Work Participation Ratio in percent according to usual status (ps+ss), age group 15-59 years					
	2019-20			2020-21		
	Total	Male	Female	Total	Male	Female
Karnataka	58.0	80.8	35.3	59.6	81.1	38.5
India	53.9	76.7	30.9	55.3	77.2	33.9

Source: Annual Report, PLFS 2019-20 & 2020-21

Table 11.8.8: Gender-wise Employment in the organized sector in Karnataka 2016-17 to 2020-21 (In '000s)

Year	Public Sector			Private Sector			Total		
	Total	Women	Men	Total	Women	Men	Total	Women	Men
2016-17	1040.1 (100)	287.0 (27.6)	753.0 (72.4)	1352.1 (100)	490.9 (36.3)	861.1 (63.7)	2392.2 (100)	778.0 (32.5)	1614.1 (67.5)
2017-18	1036.5 (100)	284.3 (27.4)	752.2 (72.5)	1348.3 (100)	491.0 (36.4)	857.3 (63.5)	2384.8 (100)	775.3 (32.5)	1609.5 (67.4)
2018-19	1019.8 (100)	268.9 (26.4)	749.9 (73.5)	1363.5 (100)	499.7 (36.6)	863.8 (63.3)	2383.4 (100)	769.6 (32.2)	1613.8 (67.7)
2019-20	1031.8 (100)	280.1 (27.15)	751.6 (72.85)	1378.7 (100)	508.6 (36.89)	870.1 (63.11)	2410.5 (100)	788.7 (32.72)	1621.8 (67.28)
2020-21	1022.6 (100)	277.2 (27.10)	745.4 (72.90)	1383.6 (100)	530.7 (38.36)	852.9 (61.64)	2406.2 (100)	807.8 (33.57)	1598.4 (66.43)

Source: Directorate of Employment and Training, Publication, Training and Coordination Division, Directorate of Economics and Statistics, Government of Karnataka, Men and Women in Karnataka 2016-17 to 2020-21.

Note: Figures in brackets are percentages.

Table 11.8.9: Judges in Karnataka – Gender-wise

Year	Women	Men	Total	Women (%)
2016-17	279	701	980	28.46
2017-18	275	684	959	28.06
2018-19	341	751	1092	31.22
2019-20	341	733	1074	31.75
2020-21	347	720	1067	32.52

Source: Directorate of Economics & Statistics, Men and women in Karnataka 2016-17 to 2020-21.

Table 11.8.10: Gender composition of Bureaucrats in Karnataka

Services/ Year	IAS			IPS			IFS		
	Women	Men	Women (%)	Women	Men	Women (%)	Women	Men	Women (%)
2017	64	156	29.09	19	133	12.50	17	119	12.50
2018	74	174	29.83	26	149	14.85	17	104	14.04
2019	80	165	32.65	26	142	15.48	17	97	14.91

Services/ Year	IAS			IPS			IFS		
	Women	Men	Women (%)	Women	Men	Women (%)	Women	Men	Women (%)
2020	72	166	30.25	26	145	15.20	17	86	16.50
2021	81	182	30.80	25	136	15.53	18	85	17.48

Source: Men and Women in Karnataka 2020-21, DES.

11.8.9 Gender and Decision Making

The currently rural married women (80.5%) are relatively way behind the currently urban married women (86.2%) with respect to participation rate in household decision making, which is a matter of concern. The **Table 11.8.11** gives the picture of participation by currently married women in the house hold decisions.

Table 11.8.11: Currently Married Women who usually participate in Household Decisions (Percent)

Major Southern States	NFHS-4 (2015-16)			NFHS-5 (2019-20)		
	Urban	Rural	Total	Urban	Rural	Total
Karnataka	83.5	78.0	80.4	86.2	80.5	82.7
Andhra Pradesh	78.8	80.4	79.9	83.4	84.3	84.1
Telangana	81.8	80.3	81.0	88.9	86.2	87.2

Source: NFHS-4 and 5

11.8.10 Gender and Political Representation

The performance of the State is impressive in respect of women's representation in Panchayat Raj Institutions (PRIs), which has crossed the mandatory half-way (50%) mark in all the three tiers of PRIs (**Table 11.8.12**).

Table 11.8.12: Women's Representation Status in all the three-tier Panchayat Raj Institutions (PRIs) of Karnataka

Year	Grama Panchayat			Taluk Panchayat			Zilla Panchayat		
	Total Number of Members	Total Number of Women Members		Total Number of Members	Total Number of Women Members		Total Number of Members	Total Number of Women Members	
		No.	%		No.	%		No.	%
2000	78349	35064	44.75	3255	1375	42.20	890	339	38.10
2005	91402	39318	43.00	3683	1519	41.20	1005	373	37.10
2010	90643	39327	43.39	3659	2018	55.15	1013	539	53.21

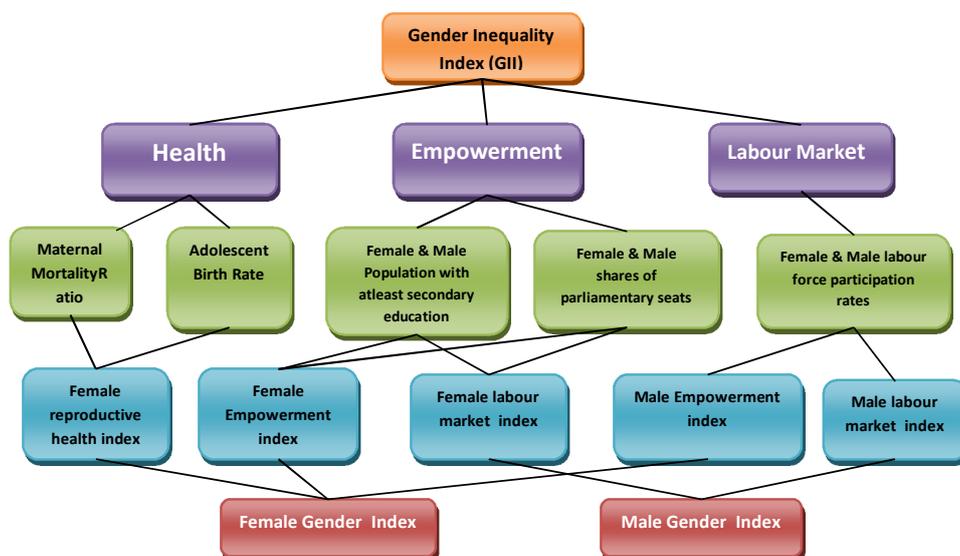
Year	Grama Panchayat			Taluk Panchayat			Zilla Panchayat		
	Total Number of Members	Total Number of Women Members		Total Number of Members	Total Number of Women Members		Total Number of Members	Total Number of Women Members	
		No.	%		No.	%		No.	%
2015 & 2016	97062	51497	53.00	3903	1998	51.19	1083	548	50.60
2020	96322	49696	51.59	-	-	-	-	-	-

Source: SEC cited in the Monograph on status of women in Karnataka, 2000. State Election Commission (SEC), Govt. of Karnataka, cited in Men and women in Karnataka, 2005, 2010, 2014-15 and Karnataka state election commission – Grama Panchayat elections(2015), Taluk and Zilla Panchayat elections (2016), Grama Panchayath elections (2020).

11.8.11 Gender Inequality Index (GII)

GII combines some aspects of GDI and GEM and it is an innovative approach to assess gender inequality. It measures gender inequalities in three important aspects of human development—reproductive health, measured by maternal mortality ratio and adolescent birth rates; empowerment, measured by proportion of parliamentary seats occupied by females and proportion of adult females and males aged 25 years and older with at least some secondary education; and economic status, expressed as labour market participation and measured by labour force participation rate of female and male population aged 15 years and older. The GII is built on the same frame work as the HDI - to better expose differences in the distribution of achievements between women and men. It measures the human development costs of gender inequality. Thus the higher the GII value the more disparities between females and males and the more loss to human development.

Fig 11.8.2: Gender Inequality Index 3 major indicators



Source: Human Development Reports

GII at District Level

GII across districts indicate a lesser variation after accounting for political participation at local level. The variation in percentage of loss due to gender inequality is from 21% (Udupi) to 44% (Dharwad) (**Table 11.8.13**).

Table 11.8.13: Gender Inequality Index Across Districts of Karnataka -2019

District	MMR	AFR (15-19)	Political Participation		Secondary Education and above by adult (25+)		LFPR (15+)		GII	Rank
			Female	Male	Female	Male	Female	Male		
Bagalkot	48	42	57.2	42.8	30.2	52.8	40.2	68.4	0.324	8
Bengaluru	59	17	54.5	45.5	57.1	69.1	24.6	76.1	0.322	7
Bengaluru Rural	78	39	51.4	48.6	35.9	39.0	22.7	79.1	0.420	29
Belgaum	104	53	51.4	48.6	32.1	48.1	37.8	78.0	0.419	28
Bellary	155	23	50.9	49.1	20.8	33.7	35.2	78.5	0.398	20
Bidar	53	27	51.2	48.8	28.1	50.7	41.9	84.3	0.322	6
Chamarajanagar	44	37	51.5	48.5	22.8	25.0	30.5	79.1	0.342	11
Chikkaballapur	63	33	51.7	48.3	34.5	49.0	24.0	65.9	0.375	16
Chikkamagaluru	58	34	52.6	47.4	34.9	36.7	19.5	74.1	0.397	19
Chitradurga	89	46	54.6	45.4	27.2	41.9	51.1	73.1	0.364	14
Dakshina Kannada	89	12	51.7	48.3	30.2	38.2	37.8	73.5	0.281	3
Davangere	109	31	52.0	48.0	21.7	33.9	31.6	81.6	0.407	23
Dharwad	209	23	51.8	48.2	31.0	43.6	29.8	85.1	0.440	30
Gadag	65	17	51.8	48.2	30.7	45.2	31.7	83.5	0.321	5
Hassan	60	39	51.8	48.2	20.5	27.5	45.6	84.2	0.341	10
Haveri	79	28	51.5	48.5	12.7	25.2	38.6	79.3	0.360	13
Kalaburagi	165	31	56.8	43.2	17.1	34.7	48.7	76.6	0.395	17
Kodagu	64	23	52.0	48.0	39.3	30.9	36.1	73.5	0.299	4
Kolar	56	52	51.3	48.7	39.3	48.1	27.2	79.3	0.401	21
Koppal	70	50	51.5	48.5	14.1	39.9	41.0	87.5	0.413	25
Mandya	73	36	51.5	48.5	29.9	43.9	26.9	84.3	0.408	24
Mysore	85	42	55.9	44.1	29.0	37.9	28.4	76.6	0.404	22

District	MMR	AFR (15-19)	Political Participation		Secondary Education and above by adult (25+)		LFPR (15+)		GII	Rank
			Female	Male	Female	Male	Female	Male		
Raichur	127	52	54.6	45.4	11.7	19.2	43.8	73.6	0.414	26
Ramanagar	81	35	51.4	48.6	37.4	49.0	22.7	62.6	0.396	18
Shivamoga	95	19	61.5	38.5	25.2	25.9	31.1	73.0	0.326	9
Tumkur	86	30	51.6	48.4	17.8	42.4	27.1	79.3	0.416	27
Udupi	83	10	54.4	45.6	32.3	35.4	58.0	60.7	0.213	1
Uttara Kannada	46	13	52.4	47.6	29.3	46.6	34.5	69.5	0.250	2
Vijayapura	55	66	53.1	46.9	21.9	40.9	50.9	78.9	0.370	15
Yadgir	74	42	51.5	48.5	15.6	33.5	60.5	79.2	0.351	12
Karnataka	84	34	53.0	47.0	31.6	44.2	33.8	77.4	0.377	

Source: Karnataka Human Development Report -2022 (Provisional).

Loss due to inequality is lowest among the districts Udupi, Uttara Kannada, Dakshina Kannada, Kodagu and Gadag. Dharwad district had highest gender inequality. Bengaluru Rural, Belgaum and Tumkur are the next three districts with high gender inequality index. Bengaluru Urban stands at 7th position with GII being 0.322 indicating 32% loss in achievement across three dimensions due to gender inequality.

11.8.12. The Third Gender Community

Census, 2011 has attempted to capture their number across States, the number of Transgender within the age group of six years (Children), and transgender belonging to SC and ST community. Trans-genders' number and Literacy Status is provided in the **Table 11.8.14**.

Table 11.8.14: Trans-genders in Karnataka and India – 2011 census

Location	Number of transgender persons				
	Trans-genders	Child (0-6)	SC	ST	Literacy
Karnataka	20,266	1,771	3,275	1,324	58.82
India	4,87,803	54,854	78,811	33,293	56.07

Source: Census 2011

The Karnataka Government has released the “Karnataka State Transgenders-Policy 2017” in December 2017. The policy is to provide guidelines for ensuring the constitutional guarantees of transgenders individually and collectively and directions for implementing the Supreme Court Judgement (2014) for the inclusion of transgenders as full citizens

and to provide Infrastructure, Health, Education, Housing and Livelihoods in partnership with various departments. The transgender cell has been setup at State, District and Taluka level for the effective implementation of the “Karnataka State Transgenders-Policy 2017”. However, still more concrete and concerted efforts are needed to ensure their development.

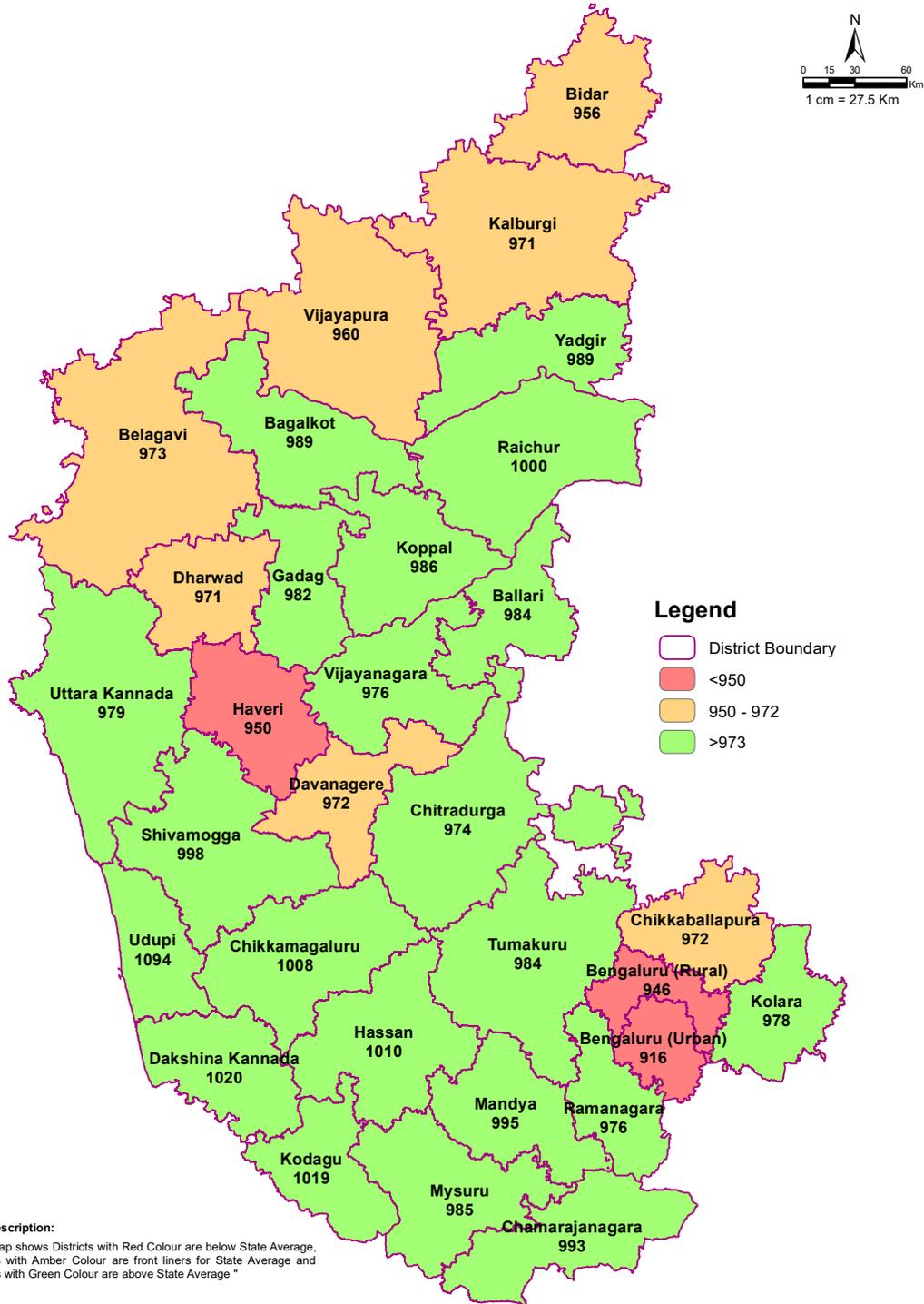
11.8.13. CHALLENGES & WAYFORWARD

- ❑ The status of human development in Karnataka is witnessing an improving trend over the years. However, the variation across districts is high with respect to both Education and Income indicators. To achieve District as a fulcrum for development these districts needs to focus more on deprived indicators especially, education, employment, female reproductive health, LFPR etc by providing good facilities and opportunities with new or existing government schemes for the better human development.
- ❑ There is a growing concern about the declining Sex Ratio at Birth to 916 in 2020 SRS report. There is an urgent need to implement the promotional schemes like Beti Bachao Beti Padhao and Bhagyalaxmi to improve the Sex ratio at birth.
- ❑ The gender-wise educational attainment, according to the All India Survey on Higher Education 2019-20, shows that the female deprivation/ disadvantage factor is high in Ph.D and Diploma level when compared to Post Graduate and Under Graduate levels is a matter of genuine concern in the state and it is to be increased by suitable programmes.
- ❑ More emphasis should be on education outcomes to bring down the disparity across districts.
- ❑ The GII can be reduced through improving the reproductive health and female labour force participation.

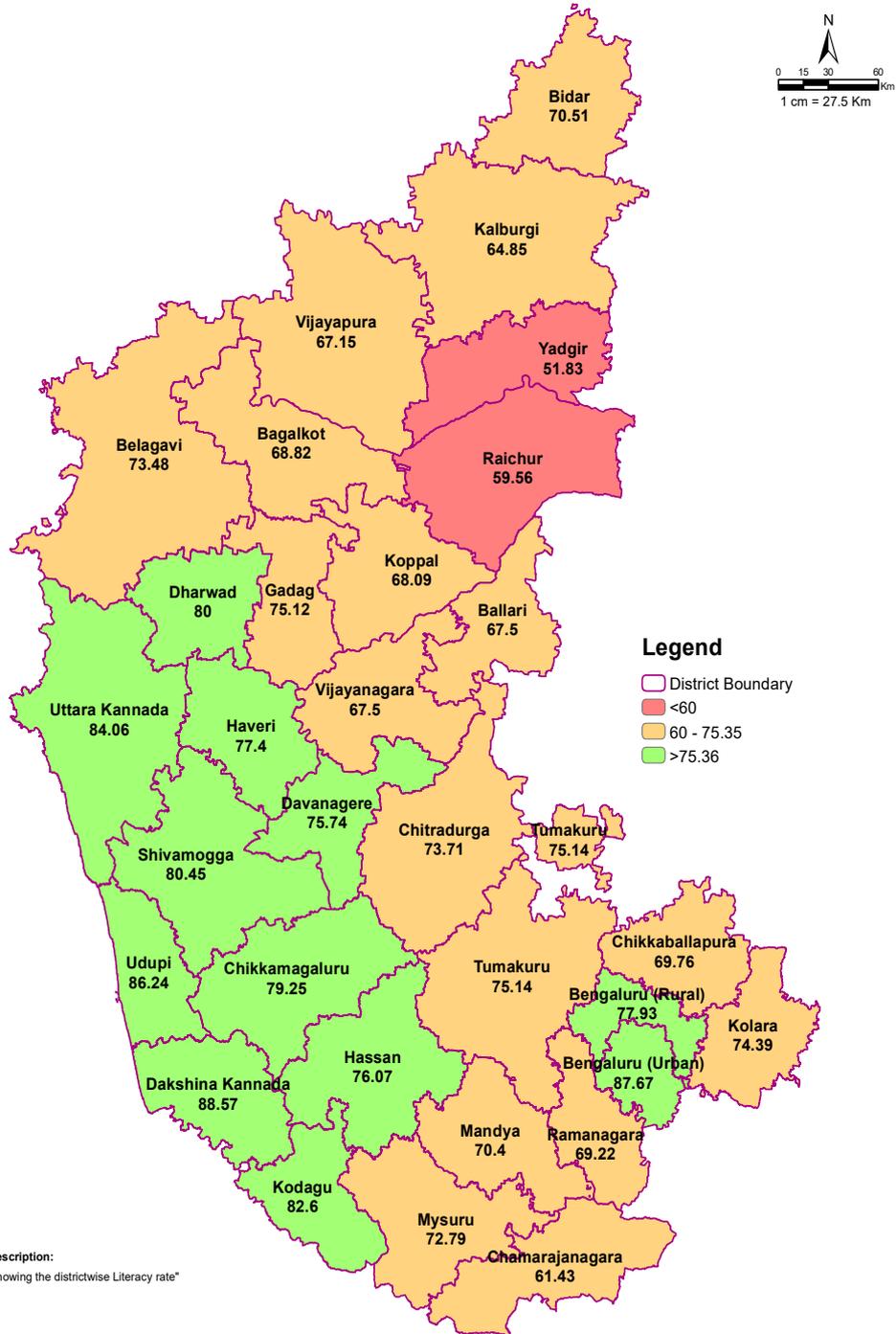
Increase women’s participation in labour force by

- ❑ Promoting entrepreneurship among women- Focused schemes in Animal Husbandry, Dairy, Household industries. Expanding coverage of Udyogini scheme.
- ❑ Capacity building of women in e-trading and e-commerce. Re-training and skill upgradation in existing sectors.
- ❑ Banks should adopt a single window approach to overcome the procedural and other barriers to accessing loans by women, especially those belonging to marginalized groups and communities.
- ❑ Karnataka has launched ‘Elevate Women’ initiative exclusively for women entrepreneurs, by partnering with Not-for-Profit organizations who have considerable experience in running these programs and by extending support through grant-in-aid fund, on similar lines as Government of India’s NIDHI Accelerator Program.
- ❑ Women entrepreneurs parks are developed by KIADB in Ramanagara, Mysuru, Dharwad, Ballari & Kalaburagi. These should be implemented on urgent footing.
- ❑ The issues of the third gender people are also of genuine concern and hence should be given utmost attention to ensure their development.

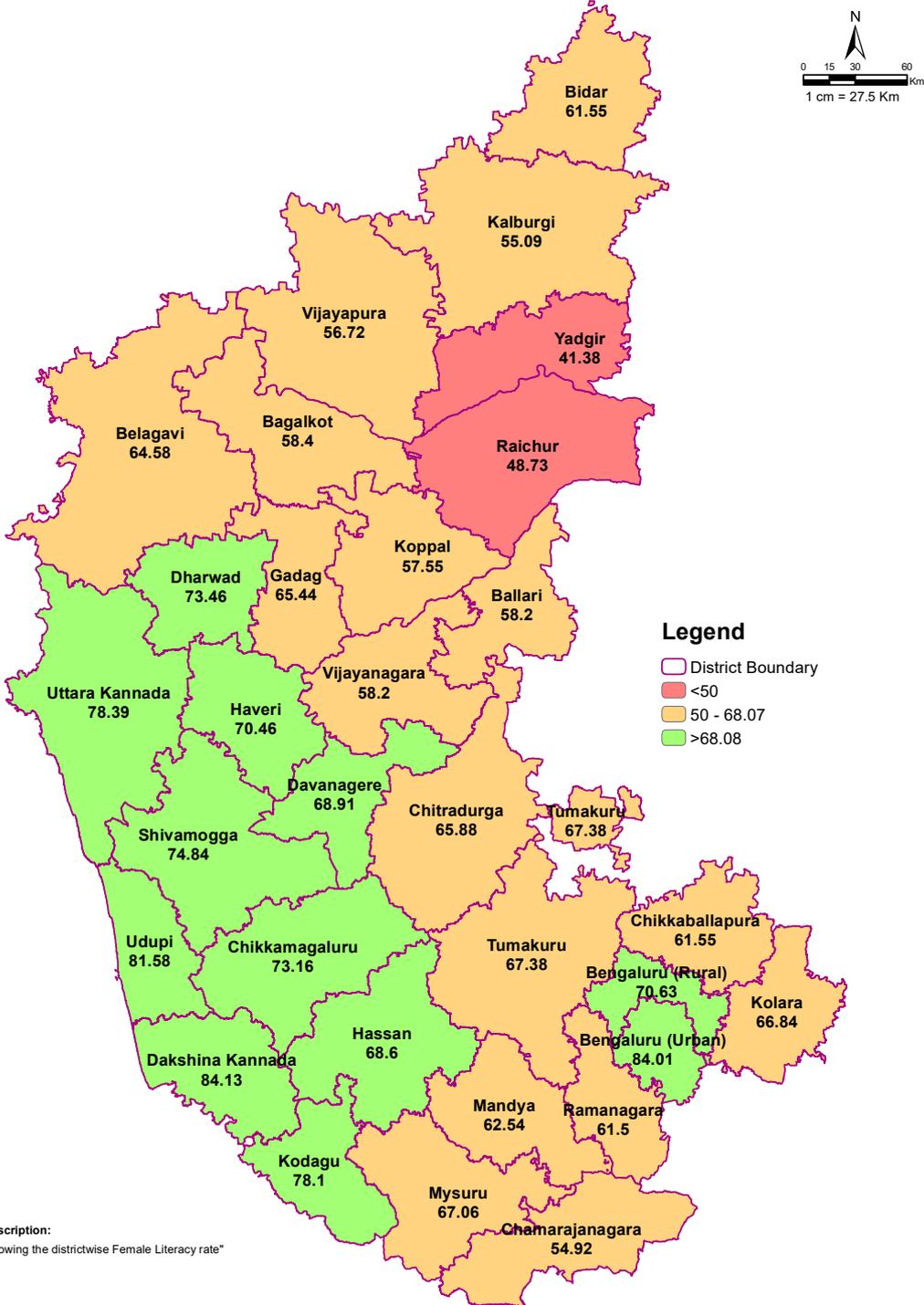
Districtwise Sex Ratio above or below the State Sex Ratio of 973 – 2011 Census



Districtwise Literacy rate above or below the State Literacy rate of 75.36 – 2011 Census



Districtwise Female Literacy rate above or below the State Literacy rate of 68.08 – 2011 Census



Map Description:
"Map showing the districtwise Female Literacy rate"

Generated from : K-GIS,KSRSAC

Appendix 11.1
Health Institutions in Karnataka (upto Nov 2022)

Sl. No.	Districts	Taluk Hospitals		District Hospitals		Other Hospitals under HFV		Autonomous & Teaching Hospitals		CHC		PHC		Indian System of Medicine Hospitals		Total Hospitals	Total Beds	Sub Center
		No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's
1	Bagalkote	5	500	1	300	0	0	0	0	8	280	48	288	6	56	68	1424	234
2	Bangalore (R)	4	400	0	0	0	0	0	0	2	60	48	288	3	26	57	774	167
3	Bangalore (U)	3	300	0	0	6	1475	16	6694	5	150	36	216	9	626	75	9461	195
4	Belgaum	9	900	0	0	0	0	1	1030	16	500	139	834	7	54	172	3318	549
5	Bellary	6	600	1	210	1	288	2	1315	11	350	78	468	7	203	106	3434	272
6	Bidar	4	400	0	0	0	0	1	750	8	240	53	318	4	41	70	1749	280
7	Bijapur	4	400	1	400	0	0	0	0	9	270	63	378	5	90	82	1538	309
8	Chamarajanagar	3	350	0	0	0	0	1	750	3	90	60	360	4	36	71	1586	245
9	Chikkaballapura	5	510	1	100	0	0	0	0	2	60	57	342	2	16	67	1028	199
10	Chikmagalur	6	600	1	400	0	0	0	0	5	170	89	534	4	32	105	1736	375
11	Chitradurga	5	500	1	450	0	0	0	0	11	330	81	486	5	42	103	1808	283
12	Dakshina Kannada	4	400	1	965	1	100	0	0	8	240	65	390	7	81	86	2176	440
13	Davanagere	5	500	1	1030	0	0	0	0	6	180	80	480	3	26	95	2216	301
14	Dharwad	3	300	1	250	0	0	2	1775	0	0	33	198	3	45	42	2568	194
15	Gadag	4	400	0	0	0	0	1	790	2	60	39	234	7	86	53	1570	168
16	Kalburgi	6	600	0	0	0	0	1	650	16	480	84	504	10	133	117	2367	347
17	Hassan	7	950	0	0	0	0	1	750	15	450	134	804	8	87	165	3041	456
18	Haveri	6	600	1	250	0	0	0	0	5	150	68	408	3	22	83	1430	303
19	Kodagu	2	360	0	0	0	0	1	650	7	310	29	174	7	50	46	1544	206

Sl. No.	Districts	Taluk Hospitals		District Hospitals		Other Hospitals under HFW		Autonomous & Teaching Hospitals		CHC		PHC		Indian System of Medicine Hospitals		Total Hospitals	Total Beds	Sub Center
		No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's	Beds	No's
20	Kolar	4	400	1	400	2	305	0	0	2	60	63	378	3	30	75	1573	230
21	Koppal	3	300	0	0	0	0	1	450	9	270	46	276	4	32	63	1328	185
22	Mandya	6	600	0	0	0	0	1	850	10	300	113	678	7	63	137	2491	385
23	Mysore	6	600	1	300	1	50	3	1940	10	300	118	708	13	464	152	4362	438
24	Raichur	4	400	0	0	0	0	2	1000	6	180	50	300	5	51	67	1931	223
25	Ramanagar	3	300	1	100	0	0	0	0	5	150	60	360	4	36	73	946	275
26	Shimoga	6	650	0	0	0	0	1	950	7	210	93	558	4	130	111	2498	305
27	Tumkur	9	900	1	400	0	0	0	0	4	120	144	864	6	56	164	2340	487
28	Udupi	2	200	1	350	0	0	0	0	6	180	62	372	3	30	74	1132	301
29	Uttara Kannada	10	1000	0	0	0	0	1	380	3	110	82	492	7	56	103	2038	343
30	Yadgir	2	200	1	100	0	0	0	0	6	180	41	246	4	24	54	750	176
31	Vijayanagara													4	32	4	32	
	Total	146	15120	16	6005	11	2218	36	20724	207	6430	2156	12936	168	2756	2740	66189	8871

Appendix 11.2

District wise SC/ST Population during 2001 census and 2011 census.

Sl. No.	Districts	2001		2011		Projected for 2023	
		SC	ST	SC	ST	SC	ST
1	Bagalkot	2.51	0.80	3.19	0.97	4.42	1.26
2	Bengaluru Urban	8.51	0.86	11.98	1.90	20.45	5.12
3	Bengaluru Rural	3.78	0.62	2.14	0.53	2.55	0.69
4	Belagavi	4.62	2.43	5.77	2.97	7.63	3.79
5	Ballari	3.74	3.65	5.17	4.51	3.92	3.57
6	Bidar	2.99	1.82	4.00	2.36	5.70	3.25
7	Chamarajanagar	2.38	1.06	2.59	1.20	2.82	1.40
8	Chikkaballapura	0.00	0.00	3.13	1.56	3.71	1.85
9	Chikmagalur	2.33	0.41	2.54	0.45	2.80	0.51
10	Chitradurga	3.36	2.66	3.89	3.03	4.67	3.53
11	Dakshina Kannada	1.31	0.63	1.48	0.82	2.91	1.20
12	Davanagere	3.33	2.10	3.93	2.33	3.83	2.05
13	Dharwad	1.32	0.70	1.78	0.88	2.64	1.16
14	Gadag	1.37	0.54	1.74	0.62	2.32	1.29
15	Kalburgi	7.18	1.54	6.49	0.65	8.59	0.99
16	Hassan	3.12	0.26	3.45	0.32	3.94	0.43
17	Haveri	1.75	1.27	2.20	1.41	2.97	1.63
18	Kodagu	0.67	0.46	0.74	0.58	0.80	0.77
19	Kolar	6.72	2.06	4.66	0.79	6.74	0.95
20	Koppal	1.85	1.39	2.59	1.64	4.58	2.01
21	Mandya	2.47	0.17	2.65	0.22	2.91	0.31
22	Mysore	4.68	2.71	5.37	3.35	6.66	4.44
23	Raichur	3.17	3.03	4.01	3.67	5.51	4.64
24	Ramanagara	0.00	0.00	2.04	0.23	2.24	0.32
25	Shivamogga	2.70	0.56	3.08	0.65	3.66	0.79
26	Tumkuru	4.74	1.94	5.07	2.10	5.55	2.32
27	Udupi	0.68	0.42	0.75	0.53	0.87	0.71
28	Uttara Kannada	1.02	0.24	1.16	0.34	1.25	0.37
29	Vijayapura	3.34	0.30	4.43	0.39	6.38	0.57
30	Yadgir	0.00	0.00	2.73	1.47	4.00	2.15
31	Vijayanagar	0	0	0	0	4.86	2.94
	TOTAL KARNATAKA	85.64	34.64	104.75	42.49	141.88	57.01

INTRODUCTION

Good Governance is the key component of the economic transformation and with the present government's focus on 'minimum government and maximum governance' the Index assumes more significance. Overall, 58 indicators have been considered for estimation of Good Governance Index (2020-21) encompassing Agriculture and Allied Sector (8), Commerce and Industry (5), Human Resource Development (7), Public Health (6), Public Infrastructure and Utilities (6), Economic Governance (4), Social Welfare and Development (10), Judiciary and Public Safety (5), Environment (4), Citizen Centric Governance (3). Karnataka's GGI score is 5.11 in 2020-21 as compared to 5.10 in 2019-20 with an improvement shown in Agriculture & Allied Sector, Public Infrastructure & Utilities and Social Welfare & Development. Gujarat with 5.66 score tops the list of the States, followed by Maharashtra (5.43), Goa (5.35), Haryana (5.33), Kerala (5.22), Karnataka (5.11) and Tamil Nadu (5.05).

Ease of Doing Business which is part of Good Governance Index, as per 2022, Karnataka emerged as top performer in Ease of Doing Business rankings, along with six states (Telangana, Andhra Pradesh, Gujarat, Haryana, Punjab and Tamil Nadu). Karnataka has improved its position from 17th position to the Top Achiever. EoDB is also part of India Innovation Index, where Karnataka ranks first rank with a score of 18.01 as per 2021.

Government of Karnataka is in the forefront in initiating and implementing successfully several e-Governance and g-Governance projects of national importance in order to improve delivery of public services. Karnataka has an exclusive e-Governance Division in the Department of Personnel & Administrative Reforms, which was set up in the year 2003 with a view to accelerate the process of IT enabling government processes for the benefit of citizens and to improve transparency and efficiency in administration.

State Institute for Transformation of Karnataka and its supporting offices will play a crucial role for Decentralized Planning, Strategy formulation and Outcome based Evaluation for effective implementation of outcome-based budgeting.

Remainder of the chapter includes good governance initiatives such as e-Governance applications, Avalokana (New Decision Support System), Special Development Plan, State Institute for Transformation of Karnataka, and Karnataka Evaluation Authority.

12.1 E-GOVERNANCE INITIATIVES RELATING TO THE DEPARTMENT OF PERSONNEL AND ADMINISTRATIVE REFORMS (E-GOVERNANCE)

- A. Karnataka State Wide Area Network (KSWAN):** The KSWAN is in operation since Dec 2009 with gradual updates from KSWAN 1.0 and KSWAN 2.0. The next stage of the project, i.e., KSWAN 3.0 has been proposed and the DPR is approved for 931.15 Crores. Under this project, it is envisaged to extend the connectivity to all the Gram Panchayats covering about 22000 offices. As on date, KSWAN connectivity is provided to about 6600 Government offices and about 600 offices will be covered shortly.
- B. e-Procurement:** This project has been extended to 353 procurement entities as on 31st December 2022. A total of 11,62,783 tenders and 56,919 auctions have been published in Karnataka Public Procurement Portal and 30,11,076 bids have been

received against these published tenders. This platform has enabled competition among the bidders. As on 31st December 2022, 1,57,696 suppliers are registered on the platform.

- C. Karnataka State Data Centre (SDC):** The SDC hosts about 395 application and 337 plus web portals. The KSDC has been hosting G2G, G2C and G2B applications of various departments. Some of the critical applications include Kutumba, FRUITS, Bhoomi, Seva Sindhu, Sakala, KAVERI- Property Registration, KRSRAC, UUCMS, KSBCL, e-Proc etc. In order to ensure business continuity for the critical applications, DR has been setup in Mohali and Near DR in Bengaluru embracing 3 way data replication technology.
- D. Security Operation Centre for SDC(SOC-SDC):** CeG SOC is also being integrated with the Threat Intelligence and advisory feeds from CERT-IN, MEITY, NCIIPC which would further enhance the security posture of CeG SOC to proactively mitigate any cyber-attack. Currently the SOC has been set-up at a total project cost of Rs.9.98 Crores which includes the cost of Hardware and Software and maintenance for a period of 3 years.
- E. Unique Identification Numbers (UID):** The aim of the project is to provide an Aadhaar number for 6.75 Crore of population. As on date, approximately 6.76 Crores Aadhaar numbers have been issued to the residents. Apart from this, many beneficiary schemes of the Government of Karnataka have included Aadhaar-based authentication, which in-turn helps in the targeted delivery of services to the right beneficiaries. Currently, 12,537 Aadhaar Centres have been deployed at various locations across the state.
- F. Karnataka Resident Data Hub (KRDH):** KRDH collaborates closely with the department's technical team, effectively assisting them with e-Sign services, Aadhaar Authentication, Namespace and Transliteration services. Till date 238985413 authentication transactions have been performed in Production environment and 1883991 in preproduction AUA. Further, 61 departments have been on-boarded and total of 2,46,77,597 eSigns have been consumed by departments.
- G. DigiLocker:** DigiLocker is a platform for issuance and verification of documents & certificates in a digital way, thus eliminating the use of physical documents. Organizations that are registered with Digital Locker can push electronic copies of documents and certificates (e.g. driving license, PAN, Voter ID, School Certificates) directly into citizens digital lockers. More than 50 State Departments adopted the DigiLocker facility successfully in Karnataka and more than 25 Departments are issuing e-documents to individuals/citizens in a standard format making them electronically available in DigiLocker. Around 28 crores of documents/certificates are made available in DigiLocker from various departments and universities of Karnataka state.
- H. e-Office:** The e-Office has been successfully implemented in all the offices of GOK Secretariat, Head offices, DC offices, SP Offices, ZP Offices and other offices. This apart, the implementation of e-office is under process in the line departments. As on Nov-Dec 2022, a total of 1490 officers have implemented with 39358 user registration, 1763103 files and 10183287 receipts. Under e-PAR during 2021-22, the progress of e-PAR for Group A officers posted was 25349 of this, 13045 e-par generated and 394 closed.

The training on e-Office and e-PAR application as on 7/01/2023 for 18,088 users of 896 departments. The e-Leave (Leave Management system) module of e-Office has been successfully implemented in all the offices of GOK Secretariat. Presently, 2571 users of secretariat are using the e-Leave module.

The Department is providing consultants to other Departments for the implementation of e-Governance initiatives. For this purpose, State e-Mission Team (SeMT) is established in the Department, and it is interacting with other Departments. The physical achievements are as follows:

- ❑ Conducted More than 200 e-Governance initiatives training programmes for all the Group 'A' & 'B' officers and Group 'C' employees of various departments.
 - ❑ More than 2000 employees were trained on e-Governance initiatives, e-Office, e-par, e-Procurement, ICT trainings from all the District Training Institutes and at Administrative Training Institute, Mysore.
 - ❑ 1,92,926 Government employees have qualified the online Computer Literacy Test and 62,886 Digitally Signed Certificates issued to qualified employees.
 - ❑ Sponsored 3 Government officers for Certified Cyber Warrior online course from IIT Madras and 2 Government officers for Executive Development Programme from NISTD, 1 Government officer for Big Data Analytics from IIM, Ahmedabad, 1 Government officer for Becoming as Effective CIO from IIM, Ahmedabad.
 - ❑ Conducted a Cyber Security awareness programme to Government employees at Vikasa Soudha and more than 309 employees benefitted.
 - ❑ Conducted GeM trainings to Government employees at Vikasa Soudha and more than 140 employees benefitted.
 - ❑ Conducted e-Office and e-Par trainings to Government employees at Vikasa Soudha and more than 403 employees benefitted.
 - ❑ Online PG Diploma in Cyber law, Cyber crime Investigation and Digital Forensic for 36 employees.
 - ❑ 1 Government officers for Cyber Surakshit Bharat Physical training programme from NeGD.
- I. Kannada Computing:** For Effective implementation of Kannada in all the domains of Information technology including Administration, following activities are taken under e-kannada: Localization of Government Applications/Software's (13 Government Applications are localized), develop technical tools for Kannada language, to bring the various Glossary and dictionaries (64 No. available) into a single digital platform as a Kannada lexical hub (PADAKANAJA). Transliteration Tool application is live and available for public usage. First Version of the Machine Translation of the tool is under testing process.
- J. State Scholarship Portal(SSP):** SSP does Direct Benefit Transfer into Aadhaar Seeded Bank Account of the Pre-Matric & Post-Matric Scholarship. As on 10.01.2023 with regard to pre-matric scholarships, 21,56,862 students paid scholarship (application Payment process is still under progress) as against 31,62,350 who have applied for it. Further Scholarship Disbursal Statistics of Departments

which sponsor scholarship to students in addition to the scholarship schemes being disbursed by other Welfare departments are 4,08,399 (Application Payment process is still under progress) as against 6,19,125 eligible students. As on 10.01.2023 with regard to post-matric scholarships, 13,09,365 students paid scholarship (application Payment process is still under progress) as against 16,80,206 who have applied for it. Further Scholarship Disbursal Statistics of Departments which sponsor scholarship to students in addition to the scholarship schemes being disbursed by other Welfare departments are 9,66,467 (Application Payment process is still under progress) as against 11,92,794 eligible students.

K. Direct Benefit Transfer (DBT): On the DBT Platform 309 schemes pertaining to 42 departments have been on-boarded on to the DBT platform. The Major Schemes which have been on-boarded are Scholarship Schemes, Minimum Price Support schemes, PM-Kisan State Scheme, CM-Relief Fund, Housing Schemes, Milk Incentive scheme. During the Year 2021-22 Rs.11,925.11 crores were disbursed through this platform to 1.80 crores beneficiaries.

L. Kutumba: The Department of e-Governance has implemented the “Kutumba” project which is a centralized data repository of families in Karnataka consisting of the individual and family attributes. The PDS data has been used as a base and other department database have been integrated with it. 5.5 Crore residents of Karnataka i.e. nearly 90% of the state population (as per 2011 census) have become part of Kutumba system. Kutumba is an Entitlement Management System which allows the Government to identify residents who are eligible for welfare benefits and suo-moto deliver the benefits “without the resident having to apply”.

Kutumba system empowers departments to weed out deceased, ineligible and ghost beneficiaries from their IT systems. Kutumba also aids the Government in Policy making, Planning and budgeting. It provides aggregated data on likely eligible beneficiaries and thus impact on budget (through financial outlay required). It also supports the Government to implement conditionalities in schemes like single benefit per family - Kutumba data has been used extensively by the Rajiv Gandhi Rural Housing Corporation to identify families. Kutumba project has been recognised nationally and has been awarded with National e-Governance Award (Silver Category).

M. Karnataka Open Data Initiative (KODI): provides citizen access to data sets of various sectors and improve public understanding of State’s operations. Currently 113 Departments published datasets on KODI and with 7217 number of resources/documents. The major future plan onboarding all remaining departments on KODI and accomplishing the goal of OGD for all State departments.

N. My Gov: The Project Monitoring Unit (PMU) functions directly under Chief Minister’s Office and the Center for e-Governance assists the PMU with Human Resources, Software and Hardware requirements. The platform is both in Kannada and English languages. MyGov Karnataka works as an idea crowdsourcing platform and aims to promote active citizen participation and engagement in governance and policymaking. Dissemination of timely and authentic information about government welfare schemes is the prime focus of MyGov Karnataka. Future plan is to visualize and showcase the success of government achievements through success stories and positive stories to motivate other citizens to make use of government initiatives.

- O. RTI Online:** In the first phase, 516 offices have been trained and onboarded the RTI Online portal effectively. In the second phase, 776 offices have been trained and onboarded the RTI Online portal effectively. More than 55842 applications have been received through the RTI online portal, 39445 applications have been disposed of and 16397 applications are in the process of being disposed of. The project has played an important role in increasing transparency in governance so that the public can access the information easily.
- P. Crop Survey:** During the year 2017, to alleviate the problems of data collection and accurate data availability, the State Government decided to take up Crop survey work using mobile software application developed by the DPAR (e-Governance) with the help of officials of the Revenue, Agriculture, Horticulture and Sericulture departments. Since 2019-20 the Crop Survey is being conducted by the Department of Agriculture in collaboration with the e-Governance Department using the Mobile App from 2020-21 onwards both farmers and private residents are involved in crop survey. Uses of data collected under Crop Survey Project are Crop area enumeration by DES (Agriculture and Horticulture), Input subsidy, Crop Insurance scheme, MSP operation and Sanction of beneficiary-oriented schemes of Agriculture and Horticulture based on parameters.
- Q. Karnataka State Web Portal (KSWP):** The websites of various Departments are further enabling the Government to bring G2C, G2G and G2B services to the citizens and external agencies, increasing its authenticity, uniformity and trust worthiness. Till date, Centre for e-Governance has redesigned, developed and hosted 624 websites of various Government Departments, Corporations, Boards and other allied agencies and more than 2000+ officials have undergone CMS training.
- R. Karnataka Government Secretariat LAN (SECLAN):** The Administrative Department offices Vidhana Soudha, Vikasa Soudha and MS Building have been provided with Local Area Network enabling various departments to access high speed internet and intranet based applications for better and efficient governance.
- S. KAVERI Property Registration using Blockchain:** The project is implemented on the lines of National BlockChain Project, a Govt. of India scheme. The pilot was conducted in 6 SRO offices (Gubbi, Jagaluru, Hosadurga, Kundapur, Sidlagatta&Sirsi) from Nov 2021 to March 2022. The issues & observations recorded during the pilot phase were discussed in the meeting of Secretary, DPAR (e-Gov), Secretary, Revenue, IGR, Stamps and Registration Dept and Commissioner, SSLR held on 24th March 2022, wherein it was decided to explore an alternative to physical KAVERI cards and redevelop the application for its roll-out across the state. This activity is planned to be taken up after the KAVERI 2.0 project goes live.
- T. Suvidha:** Suvidha is a one stop solution for all Citizens for Scheme Discovery, Eligibility Check & Service Delivery for all schemes and Services from various Departments of Government of Karnataka. This Project is Monitored by Centre for e-Governance, Government of Karnataka.
- U. National Academic Depository (NAD):** National Academic Depository (NAD) is an initiative by Ministry of Education (MoE) to provide a 24X7 online depository to Academic institutions to store and publish their academic records (Marksheet, Caste certificates). Till date, 77 Universities Registered and 69 Universities published Academic Awards on DigiLocker-NAD.

V. Mahiti Kanaja: MahitiKanaja is a single web portal with no username or password where citizens can obtain all public services and scheme information in a timely manner without filing an RTI. A special Panchayat Level Digital Dialogue was conducted on MahitiKanaja Project to obtain and address the grassroots level information to be displayed on MahitiKanaja Portal. Till date, more than 500+ services from 130 Departments are onboarded in MahitiKanaja with 21 Lakh plus visitors in the period of one year. Our platform also shall play a significant role in improving the functioning of other good governance initiatives like the Integrated Public Grievance Redress System, Family ID program, and Karnataka Open Data Initiative. Achievements are providing GP/TP/sector wise services, introduction of GO's, Policies, and Circulars Sections and data visualization.

W. Farmer's Registration and Unified Beneficiary Information System (FRUITS): FRUITS is a common database facility for Registration of farmers, and other beneficiaries who want to avail benefits from the Government. It also facilitates various departments in providing assistance to the beneficiary by connecting to DBT portal and therefore also acts as a repository of benefits provided. "FRUITS" is aimed at bringing departments like Agriculture, Horticulture, Sericulture, Animal Husbandry & Veterinary Sciences, Fisheries, Backward classes, and social welfare on to a single platform.

FRUITS helps in Registering Farmers and non-farmers and provides a unique ID. The Registration is once in lifetime activity, as a result the beneficiary need not carry his/her documents to the next department and for every scheme. Benefits given to a person can be tracked using Registration ID which is mandatory for all the departments to capture before providing benefits. This would not only stop multiple benefits reaching the same beneficiary but also helps in inclusive growth.

FRUITS is integrated with the state DBT portal and through the DBT portal it is also integrated with Khajane II (K2) /Financial Management System. Major beneficiary schemes included are PM KISAN State Contribution, Financial Assistance to Maize growers under Covid-19 relief, COVID Relief Assistance to Flowers, Fruits and Vegetable Growers (Comprehensive Horticulture Development), National Food Security Mission, MSP for Tur (MARKFED), Ragi, Paddy, Maize, Jowar, Groundnut, Green Gram & Horse Grams and Milk incentives to milk pourers of KMF. Till December 2022, more than 83.12 lakh farmers registered in FRUITS. Around Rs. 16761.11 Crores of assistance provided through the system by various departments. Banks and Co-Operation institutes are also using FRUITS for extending Agriculture loan, more than 20,000 Branch including more than 5,000 PACs are using FRUITS data.

X. Integrated Public Grievances Redressal System (iPGRS): iPGRS, also known as Janaspandana, is a one stop multi-modal, robust, data-driven & paperless IT platform to transform the Karnataka's Grievance Management System for registration, processing and redressal of the public grievances regarding the delivery of services and schemes of various Departments of Government of Karnataka

The citizens can register their grievances pertaining to 40 + Departments and 1300 + schemes / services delivered by Government of Karnataka. As on 09-01-2023, 60,874 grievances have been received through web portal (<https://ipgrs.karnataka.gov.in>) android mobile application -Janaspandana and dedicated call centre with the Helpline number 1902.

As of now more than 35000+ government employees from 40 + departments have been trained. Meetings with all the Heads of Departments, Deputy Commissioners, Chief Executive Officers are conducted on iPGRS and their feedback/opinion on the system is also taken. Apart from this, Hands-on training to all the L1, L2 & L3 Officers of all the Departments in Bengaluru Rural, Ramanagar, Chickmagalur, Tumkur, Hassan, Bagalkot and Vijayapura districts have been provided.

Y. E-Sahamathi: e-Sahamathi, a generic consent manager, is first of its kind in the Nation which allows data seekers to seek consent of data principal (citizen) to access her/his personal data that is available in Government databases. e-Sahamathi platform is the intermediary which connects the data seeker to the data principal and communicates the consent to the concerned database (data fiduciary) to share data.

Around 20 Data Seekers until now have put forth their interest to register on to e-Sahamathi platform as a Third-Party Service Providers (TPSP). Two Data Fiduciaries i.e., National Academic Depository (NAD) and FRUITS have been on-boarded on e-Sahamathi platform to share the data which are made available on their respective databases with TPSPs. Six TPSPs have been approved and on-boarded to the e-Sahamathi platform 2 more data seekers are in pipeline to register as TPSP. Future is aiming to reach out to maximum data principals and data seekers by conducting educational and awareness programs across the state.

Z. K-GIS: K-GIS has more than 500+ updated Spatial Layers with extensive attributes and rich content of satellite images, thematic maps, ground survey and MIS data with Geographic reference. These K-GIS Spatial layers are made available in this portal. Single gateway access to GIS layers of data for more than 100 departments. It has been included as a regular program for continuous GIS support to all departments of GoK and to develop geospatial applications for deeper and extensive geoenabling the governance process in the GoK. K-GIS portal has been developed under the project as a single gateway access to more than 500 GIS layers and many decision support applications both mobile and web enabled to serve the needs of various departments of GoK. Also, the portal provides metadata service, data ingest service, data sharing service etc. This portal hosts most extensively used mobile applications such as Dishank, Chunavana, Maulya, Kushalakosha etc helping in speedier decision making and governance.

Karnataka at Glance (KAG) / District at a Glance is annual publication of the Planning, Programme Monitoring and Statistics Department brought out through online linking the GIS portal of Karnataka Remote Sensing Application Centre. KAG consists of 1739 parameters (static-562 & dynamic-1177)- geospatial taluk/district maps.

Today, K-GIS datasets and applications are adopted and used extensively in almost every department of the state. The faster realisation of establishment of state level GIS was made possible due to some of the unique features adopted under K-GIS within the scheduled time and cost much lower than estimated. Some of the unique innovations and best practices are:

- ❑ Institutional support – through GO's, Policies, Periodical reviews at senior level for mandating the use of K-GIS.
- ❑ Training and Capacity Building from State to Taluk officers

- ❑ Pooling of all existing GIS Licenses across departments.
- ❑ Common Spatial framework with HR satellite image base
- ❑ Common base data framework
- ❑ Shared physical infrastructure with State Data Centre
- ❑ Modularized application / viewers with standard tools
- ❑ Developed common API's for accessing K-GIS datasets and Location based services.
- ❑ Staggered deployment of application on the hardware and increased resources – based on usage upon performance tuning and improvements.
- ❑ Focused on information completeness and –spatial accuracy improved incrementally.

Today, K-GIS has graduated to offer the following.

- ❑ Develop web / mobile application – as per the requirements of department.
- ❑ Provide GIS data as service.
- ❑ Provide GIS application / viewer with standard tools as a service.
- ❑ Provides the GIS Platform as a service.

Table 12.1 Financial Progress of Department of Personnel & Administrative Reforms (E-Governance) (Rs. in Crores)

No.	Scheme Name	2022-23 Total Allocation (BE+SE)	Releases upto (January)	Total Expenditure (Upto January)
1	e-Governance Project	59.00	54.91	51.68
2	Karnataka State Remote Sensing Application Centre	8.00	6.00	6.00
3	Directorate of e-Governance and Electronic Delivery of Citizen Services (EDCS)	23.32	12.25	8.69
4	Transaction charges on DBT	3.00	0.51	0.46
	Total	93.32	73.67	66.83

Source: Avalokana (29.1.2023)

Financial Progress clearly indicate that the expenditure to release ratio is around 91% up to January 2023.

12.2. AVALOKANA – NEW DECISION SUPPORT SYSTEM

- ❑ In order to get the timely automated data at a single platform Planning Department promoted innovation work on Output and outcome based, geo targeted budget for ensuring sustainable development of the State, which seeded the idea of “Avalokana”. The platform assimilates and integrates automatically data from the Taluk level to the

State on more than 1800 schemes (State Sector and District Sector) implemented in 45 administrative departments. More than 20,000 Government Officers are on boarded in the system. The State Treasury system Khajane II is integrated with Avalokana to provide seamless real time information on expenditure for each drawing and disbursing officer. The boards and corporations of the Government also update their financial information on Avalokana.

- ❑ The 49 parameters mentioned under Champions of Change adopted to capture the sustainable development of each taluk across the 5 thematic sectors of Health, Education, Agriculture, Basic Infrastructure & Financial Inclusion-Skill development.
- ❑ Geo-spatial visualization is being incorporated for all schemes and Data in the form of reports were made available for public consumption.
- ❑ Avalokana ensures total transparency by providing data access and information from state level view to taluk view on budget allocated, expenditure and release across all 1800 schemes.
- ❑ SDG baseline for each taluk has been established by acquiring data for each of the 227 taluks across 49 indicators of 5 thematic sectors. The overall goal of the SDG Barometer is to obtain several updated insights into the SDG landscape in Karnataka for various types of organizations, including companies, governmental and non-governmental organizations and educational institutions.
- ❑ 1200 parameters are available on GIS platform to measure performance.
- ❑ Apart from monthly reviews at State/District/Taluk/GP level, the DISHA meeting for review of Central Sector schemes, both in Financial and physical terms has been facilitated.
- ❑ Schemewise District/Taluk wise analytics for poor performance is available for improving administrative efficiencies.
- ❑ Data has been organically collected in way of input from the taluk level, APIs with various departments are being integrated.

12.3 Special Development Plan (SDP)

Special Development Plan is being implemented by the Government to improve the 114 backward taluks identified by the Dr.D.M.Nanjuandappa Committee since 2007-08. 40% of the SDP budget is earmarked for Kalyan Karnataka Region. From 2007-08 to 2021-22 an amount of Rs.38,979 crore has been allocated of which the amount released is Rs.33,200 crore. The expenditure incurred is Rs.30,699 crore. For 2022-23 an amount of Rs.3,070 crore is allocated in the budget of which an amount of Rs.1357.41 crore has been released (upto Jan 2023). The expenditure incurred is 849 crore upto Jan 2023.

Kalyan Karnataka Development Board

In pursuance of the article 371(J) Kalyan Karnataka Region Development Board was formed on 06.11.2013. Despite the interventions to develop the KK region on par with the relatively developed regions, vital indicators relating to human development, in particular, of the region depicts that the gaps in the indices still persists. This indicates that the barriers to development are still strong enough to retard the development processes.

In this context, intensive efforts are required to bridge the development gap and attain equitable distribution of gains from development across regions and people in the State. Therefore, to plug the backwardness of the Kalyana-Karnataka region, State has made a conscious effort by substantially increasing the allocation provided to the KKRDB.

For 2022-23 an amount of Rs.3000.00 crore is provided in the budget out of which Rs.1500 crore is allocated under micro plan prepared by the KKRDB and Rs.1500 crore for mega projects. An amount of Rs.1010.47 crore has been spent upto Jan 2023 as against the allocation of Rs.3000 crore. The focus, however, needs to be on education, health and nutrition and skill development along with development of farm and non-farm activities. Therefore, formulation and effective implementation of development programmes tailored to the needs of the region are required to meet the challenges of this region.

12.4 EVALUATION OF GOVERNMENT SCHEMES/PROGRAMMES

A surge in public expenditure driven by economic growth, resulted in a growing demand for Monitoring and Evaluation. Macroeconomic policy makers are concerned about quality in public spending and better outcomes from public investments. Karnataka was one of the first States in the Country to evolve an Evaluation Policy in 2000. The main aspects of the evaluation policy are: (i) Schemes over Rs.1 crore outlay evaluated at least once in a Plan period, (ii) 1% of the total outlay of a project/scheme to be kept for project evaluation purpose in the Department and (iii) Outcomes to be used for Improving Programme Design and Delivery and (iv) Justification to take a Programme forward beyond Plan period.

Increasing importance and usefulness of Evaluation of Schemes is evident that Government of Karnataka has made a budget announcement that schemes / projects with annual outlay more than Rs. 100 crores to be evaluated mandatorily once in plan period (budget para 184 of 2021-22)

Karnataka Evaluation Authority (KEA) was set up vide Government of Karnataka order no. PD/8/EVN (2)/2011 dated 11th July 2011 and registered as a society vide registration number DRB-C/SOR/140/2011-12 on 19th September 2011 under the Karnataka Societies Registration Act, 1960. It functions under Planning, Programme Monitoring and Statistics Department (PPMS).

Apart from the grant for evaluation studies from the Government of Karnataka, KEA receives funds from UNDP for preparation of Human Development Reports and other line Departments for preparation of various evaluation and research study reports. The total receipts from 2011-12 to 2022-23 is to the tune of Rs. 8007.59 Lakhs with a Expenditure of Rs. 6441.97 Lakhs, resulting in a balance of Rs. 1565.62 Lakhs (80.44% utilisation). The total receipts for 2022-23 is Rs. 2066.08 lakhs with an expenditure of Rs. 621.89 Lakhs, resulting in a balance of Rs. 1565.62 Lakhs.

Evaluation Studies completed from 2011-12 to 2022-23

During 2022-23, KEA has completed 5 studies and 19 are ongoing studies. Till date since inception of KEA in 2011-12, 160 studies have been completed pertaining to departments of Agriculture, Horticulture, Water resources, Industries and Commerce, Health, Education, Social Welfare and Women and Child Development, Education, Karnataka State Women

Development Corporation, Karnataka Rural Drinking Water and Sanitation Department, Public Enterprises. Out of 160 external studies (third party), 83 % are impact evaluations. 8% are based on secondary data analysis, 4% are Research Studies and 5% are process evaluations. KEA also provides technical support for evaluations of schemes by the departments themselves.

Major recommendations from the Evaluation studies (2021-22)

Karnataka Rural Infrastructure Development Limited (2014-15 to 2019-20)

(i) KRIDL needs to better utilize its significant cash reserves and fixed assets. Existing equipment/ machinery/ infrastructure should be upgraded and put to use. Old workshops should be revived so that material can be procured, and their repairs can be done in house. Leasing/ renting arrangements for existing fixed assets such as land, buildings can be explored for earning regular income. Surplus cash can be invested in higher return earning instruments like reliable mutual funds, long term pension funds, etc. (ii) Implementing Enterprise Resource Planning (ERP) solution across key modules such as Engineering, Material management, Contract management, financial accounts, Tender management, and MIS. This will help to provide a single, seamless and integrated data view across the company and improve accuracy and timeliness of business processes.

Evaluation of National Horticulture Mission 2015-16 to 2018-19

(i) Focus on human resources development, (ii) reducing delay in disbursement of subsidies to beneficiaries, (iii) skilling/upskilling of staff and farmers on modern techniques, (iv) strengthening collective action and value chains of both conventional and organic produce, and (v) convergence with schemes like ODOP, RKVY, PMKSY.

Technology Assisted Learning Programme (TALP)

(i) Facilitate development of (digital) CD/DVD library in all TALP schools using DLR, OLR and audio cassettes for language learning, (ii) Standardize quality of training programmes, bring uniformity in training. Roll out a SoP for DIETs. Ensure full complement of staff for DIETs, (iii) There is a need for a CLOUD NETWORK in the Department of Education with a spread across all wings of the Department, the DSERT/DIETs specifically, the TALP monitoring wings across all levels of governance, for MIS and SATS management and finally, most significantly the high schools (and PU Colleges).

Karnataka State Police Housing and Infrastructure Development Corporation Limited (2010 - 2021)

(i) The quality of construction of houses built by the Police Housing Corporation is not up to the expectation of the police force and is demonstrated by a poor Satisfaction Index of 2.03/ 5.0. Hence, the Corporation needs to improve the quality of construction by way of clear satisfaction of contract specifications and completion of project within cost and time, (ii) To mitigate the time escalation in the implementation of its projects, the Corporation can look at the adoption of project management tools like SCRUM, which is a framework for developing, delivering, and sustaining products in a complex environment, (iii) User Departments to have regular maintenance contracts with the Police Housing Corporation for consistent maintenance of the buildings. The Government needs to create a Special Purpose Vehicle (SPV) under the umbrella of the Police Housing Corporation to oversee

and manage the upkeep and maintenance of the building constructed by it, and (iv) To sustain and grow as a commercial entity, the Corporation needs to register its activities under K-RERA.

Evaluation Study Human Elephant Conflict the Mitigation Methods Employed and its Impact on Conflict Resolution

(i) EPT and solar fence barricades have been effective in deterring and reducing conflict. In large tracts fencing at individual or community level have been proven to be cost effective and also turned out to be popular. In flat and plain areas EPT and solar fence at individual and combined has given good deterrent abilities. In hilly areas the risk ranges from moderate to high and solar fences have been more effective, (ii) October, January and March have been indicated to be with high number of crop raids, necessary precautions to be taken. Squads and youth groups can be equipped to drive the elephants away and (iii) Community solar fencing for farms is better compared to single fencing, (iv) Optimal Forest Habitat Management

Evaluation of Karnataka State Road Transport Corporations (KSRTC, NWKRTC and KKRTC) (2014-15 To 2019-20)

(i) Digitizing the depot level route maps and integrate with corporation level, (ii) Adopt ITS system to provide real time updates to passengers and (iii) Asset monetisation

Pashu Bhagya Scheme (2015-16 to 2018-19)

(i) IT enabled services for selection of beneficiaries, (ii) e-marketing platform and (iii) convergence with schemes like Krishi Bhagya, RKVY, Solar Schemes, MGNREGA, fodder plantation

PMKSY-PDMC (Micro Irrigation)(2016-17 to 2018-19)

(i) Strengthening single window model, Karnataka Antharaganga Micro Irrigation Corporation (KAMIC) Limited for further improving the efficacy of the micro irrigation program in Karnataka, (ii) convergence with the irrigation related schemes like PM-KUSUM, National Horticulture Scheme, Rashtriya Krishi Vikas Yojana, Jal Jeevan Mission, and Integrated Scheme on Oilseeds, Pulses, and Oil palm and (iii) post-installation services, training and maintenance and insurance should be made mandatory for sustaining the benefits throughout the economic life of the equipment.

Agriculture Technology Management Agency (2019-20)

(i) strengthening and increasing in the activities under training, exposure visits and new technologies, (ii) NGOs can help to enhance the impact of the scheme for the beneficiaries, and (iii) Allied sectors should have been more affectively involved in ATMA activities based on the priority of each sector.

Loan availed by Self Help Groups at Concessional Interest Rates from Cooperative Institutions

(i) Currently the loans are given by the DCC bank with the representation of PACs. The loans can be directly sanctioned and dispersed through NRLM and (ii) Loan amount for

SHG members should be increased from Rs. 50,000 to Rs.1,00,000. Paving way for the diversification of business.

Industry Related Services Modules of Major Government Departments (2019-20)

(i) The factory department could emulate the AP where factory plan approval is end to end online and the intelligent system employed can read AUTOCAD drawings. The automated system has reduced the time taken for plan approval to 5-7 days from previously 25-30 days, (ii) For application status tracking in the commercial tax department, it can replicate the one from Haryana state portal information, (iii) Andhra Pradesh is faster than Karnataka state pollution board because consent services are end to end, online system ensures consent time has been reduced from 45 to 21 days, presence of auto renewal self-certification process, inspections carried on computerized risk based model, (iv) The Labour department portal can emulate from Haryana state portal features of application tracking and from Goa state portal information security, (v) Bangalore Development Authority can emulate features from Gujarat and Kerala state portals for enhancing information accessibility and user friendliness and (iv) The Directorate of Municipal Administration can implement An intelligent system for approval of building plans that could improve SAKALA adherence, Similar to the system AP has developed for approval of factory building plans. Self-certification and simplified inspections will help in better understanding on the side of the applicant.

Karnataka State Forest Development Corporation, Karnataka State Forest Industries Corporation and Karnataka Cashew Development Corporation (2015-16 to 2019-20)

(i) Establishment of Monitoring Information System (MIS) to control and improves the quick decision for the timely operations, access to data for effective decision making etc. At present, the corporations are doesn't have any MIS system in place, (ii) KFIDC (Rubber Wing) may be merged with the Plantations Corporation, since both their operations are on the production end. They are either involved in planting or harvest of matured trees. The merger committee should have extract care on the following aspects: seniority of the permanent officials and (iii) The KCDC needs to work closely with research institutes like the NRC (Cashew) for arriving at robust methods for estimating productivity, solutions for weeding problems in plantations and training in modern grafting techniques.

Evaluation of Multi-Village Water Supply Schemes implemented by RDWSD in Karnataka during 2015-2020

(i) Scheduled water quality check, (ii) recharge defunct borewells, (iii) automation of water supply, (iv) introduce incremental block tariff for bulk water supply and (v) develop a ToT team and synchronization of water supply.

Interest Subvention for Women Entrepreneurs implemented by Karnataka State Women Development Corporation (2015-16 to 2018-19)

(i) The evaluation of loan applications/proposals should be streamlined and uniform, (ii) the loan application, processing and repayment should be simplified and digitized, (iii) A unified Management Information System (MIS) for the Interest Subvention Scheme should be established, (iv) The scheme provisions could be made more attractive to expand the uptake of the scheme, (v) A library of bankable projects could be created for consideration under funding, (vi) Backward and forward linkages should be provided to service sector enterprises to enhance their sustainability and effectiveness of operations.

Impact of Evaluation studies

The outcome of evaluation is the mid-course corrections in the scheme guidelines, implementation processes leading to enhanced achievements. Hence KEA is continuously striving for effective implementation of recommendations in evaluation studies. The follow up with the concerned Departments continues till the Action taken Report (ATR) is received from the Departments. Out of the total 160 studies till December 2022, 143 action taken reports have been received and 17 are awaited from departments.

Action taken received from the department on the recommendations of the selected evaluation studies during 2022-23

1. Evaluation Of Functioning and Effectiveness Of Industry Related Services Modules of Major Government Departments In Promoting Investor Friendly Business Environment For Industries In Karnataka from 2019-20

- ❑ The recommendation given in the Evaluation of Functioning and Effectiveness of industry-related services modules of major Government Departments in promoting an investor-friendly business environment for industries in Karnataka (2019-2020). For enhancing the process and IT efficiency of services, the Department of Stamps & Registration, Government of Karnataka is in process of revamping the Kaveri application by introducing blockchain technology in the land registry. This will allow the end-user to keep all records immutable as well as the updates associated with a particular record, deteriorates the usage of fake documents and one could trace the origin of a land.
- ❑ As a part of EODB- State Business Reforms Action Plan (SBRAP) 2020, BWSSB has published a user manual, process flow chart, application fee details, document checklist, tariff details, and other requisite information on the department portal. The service timelines and dashboard have also been developed and published by the department. For Functioning of Karnataka Single Window (eBiz) Portal, KIADB has ensured the development of a robust GIS system showing details on connectivity infrastructure, utility infrastructure, truck infrastructure for all state industrial estates.

2. Impact Evaluation of Pashu Bhagya Scheme from 2015-16 to 2018-19

The Karnataka breeding policy has been implemented based on the suggestion from Evaluation of Pashubhagya Scheme and Organized marketing system is being taken up by formation of FPO's. During 2019-20 30 FPO's have been already formed and a target to form 50 FPO's is being taken up in the current year for the development of organized marketing system in sheep/goat, piggery, and poultry.

3. Evaluation of Functioning of Karnataka State Police Housing and Infrastructure Corporation Limited from 2010-21

Karnataka State Police Housing Corporation Limited (KSPHIDCL) is committed to project implementation integration with Total Quality Management (TQM) resulting in total quality in construction by adhering to total transparency and right to information and striving continually to provide improved quality products and services that are cost effective and delivered in time based on the suggestions from the suggestions given from the evaluation of KSPHIDCL.

4. Sustainable Urban Planning Strategies for Karnataka Cities :

The suggestions given in evaluation of Transfer of development Rights (TDR) scheme in BBMP and Urban development Ministry (2012-13), BDA (Planning authority) has started the process of digitization of the previous records and agreed to initiate steps in this regard. BDA has published DRC issued list in their website. BBMP has agreed to initiate steps to publish annual list of projects to be executed using TDR scheme. Steps will be taken by both BBMP (public) and BDA (planning authority) to educate the staff in the concerned department to handle TDR process efficiently.

Knowledge Partner/Technical Support/capacity building

- ❑ KEA is a knowledge partner with Development Monitoring and Evaluation Office (DMEO-NITI) for replicating KEA model across states.
- ❑ Government of Assam visited KEA on 19th October 2022, and Government of Uttarakhand on 27.06.2022 for learning about establishment and functioning of Karnataka Evaluation Authority.
- ❑ It is providing support to State Institute for Transformation of Karnataka (SITK), Sustainable Development Goals Coordination Centre (SDGCC), Centre for Open Data Research (CODR) and Nudge-Indian Administrative Fellowship Programme
- ❑ It is involved in preparation of Karnataka Economic Survey and Human Development Report
- ❑ KEA staff is involved in building capacity of Evaluation Consultant Organizations and Officers of the Government on Monitoring, Evaluation and Learning
- ❑ Internship are taken up as per requirements of the Government on SDGs and topical issues.

12.5 DIRECTORATE OF ECONOMICS AND STATISTICS

The Directorate of Economics and Statistics under Planning, Programme Monitoring and Statistics Department is a data mining platform and is responsible for providing the necessary data base for formulation of programmes and policies by the state. It has been empowered to act as Nodal Agency by Government in respect of all the statistical activities of the state and to provide advice to all the government departments on all the statistical matters. Statistical data on various socio-economic activities of the state are being collected, processed, analyzed and published from time to time. It also estimates for Gross State Domestic Product (GSDP), Gross Districts Domestic Product (GDDP), Per capita Income of the State and districts.

Karnataka at a Glance and District at a Glance

The Directorate publishes important publications called “Karnataka at a Glance” and “District at a Glance” every year. From 2018-19 these publications brought out by collecting the data from taluk level / district level by linking the Geographical Information System developed by Karnataka State Remote Sensing Applications Centre (KSRSAC). These publications contain information about 2000 parameters both static information (Population Census, Agricultural Census and Livestock Census) and dynamic information

related to the programmes of various development departments in addition to socio-economic and geographical information of the districts / taluks. The information is available on the website des.karnataka.gov.in and planning.karnataka.gov.in. Karnataka at A Glance and Karnataka Compared with India is presented in **Appendix 12.1 & 12.2**.

These publications contain not only statistical information but also spatial maps which indicate the taluks / districts which are less than the state average in the development indicators, which will be useful for the planners, administrators to formulate policies and plans for the backward taluks on priority basis. Based on the information of KAG / DAG 2021-22 the value of 49 indicators assigned by the Niti Ayog for Aspiration Taluks and 35 indicators identified by Dr. Nanjundappa Committee to determine the backward talukas are worked out in order to give priority to those talukas which are less than the state average in the development indicators.

The NRDMS Centres operating under the control of Zilla Panchayats cater the needs of GPS mapping for various Government departmental activities in order to formulate and implement Zilla, Taluk and Gram Panchayat Plans scientifically.

During 2021-22 the focus of the activities was on the following:

- ❑ E-JanMa application was awarded with silver medal in skoch “SKOCH AWARDS 2022” in the category of e-governance. This uniform web based application has been developed for the registration of Births and Deaths in the State.
- ❑ Under Karnataka Pradhana Mantri Fasal Bima Yojane during 2021-22, as against 1,35,912 crop cutting experiment planned on the notified crops for all seasons, 1,07,147 experiments were conducted. For 2022-23, 1,25,328 crop cutting experiments for kharif and rabi seasons have been planned of which 78,577 experiments were conducted till date.
- ❑ For the year 2022-23 it is estimated that (as per second advance estimate) 113.39 lakh hectares of area under agricultural crops will be grown as against 107.02 lakh hectares cultivated during 2021-22. It is also estimated that 134.89 lakh tones of food grain production will be produced for 2022-23 as against 128.73 lakh tonnes of food grains produced during 2021-22.
- ❑ DES has carried out 1% verification of data collected under mobile app based crop survey during kharif – 2022-23.
- ❑ To enumerate agriculture land holders and their area in the State, 11th Agriculture Census is under progress.
- ❑ As per 7th Economic Census conducted in the State 45.19 lakh economic enterprises are in the State.
- ❑ 10,37,182 births and 5,51,327 deaths were registered during 2022.
- ❑ Karnataka is proud to be the first state in India to incorporate births and deaths certificate registered in e-JanMa into block chain software from 01.04.2022. This software prevents duplication of births and deaths certificates and its misuse. Issuing of births and deaths certificates with Digital Signature has been made compulsory.

- ❑ With the aim of achieving 100% total medically certified deaths in Karnataka, uploading of medical certificate of cause of death (form 4/a) has been made compulsory in e-JanMa for all institutional deaths.

12.6 SUSTAINABLE DEVELOPMENT GOALS COORDINATION CENTRE (SDGCC)

Government of Karnataka has established a Sustainable Development Goals Coordination Centre (SDGCC) as part of the Planning Department in partnership with United Nation's Development Programme (UNDP). SDGCC in coordination with Department of Planning is spearheading SDG initiatives and driving the SDG movement in Karnataka.

SDGCC is a catalyst for introducing following innovative actions to achieve SDGs in the state.

- ❑ **Karnataka Vision 2030:** SDGs Vision 2030 – Strategies and Action Plan for Karnataka with 600+ indicators.
- ❑ **Community Broadcast Programs:** The first community radio network has been initiated by SDGCC in Karnataka through community broadcast programs. Through this program's community radios are connecting to various government departments to understand various government schemes and programs to the community. This would help the community radios to communicate right information to educate people at the grassroots.
- ❑ **SDGs for Youth:** The First SDG Centre for Youth Engagement was established in National Institute of Engineering -Mysore. Many more such initiatives will be continued in the state. SDG Youth Engagement Campaign partnering with Academia and Department of Youth Empowerment and Sports was initiated to build the capacity of youth to engage in SDGs. SDGCC is closely associated with State NSS to implement Amrutha Samudaya in 750 villages and Department of Youth Empowerment and Sports for implementation of SYSY with technical support.
- ❑ **NGOs for SDGs:** Initiated programs to engage NGOs in SDGs through NGO network. The first capacity building program was organized for Kalyana Karnataka Districts. Many more rigorous engagement programs would be continued.
- ❑ **SDGs for CSR:** The first state to engage Corporate Social Responsibility (CSR) for SDGs. A CSR matchmaking platform (Akanksha) to align CSR commitments to SDGs has been created and functioning.
- ❑ **Media for SDGs:** Media partnership and communication through TV media events, Podcasts and radio events has been initiated.
- ❑ **Best Practices of Good Governance:** Efforts are being made to replicate the good governance practices.

12.7 STATE INSTITUTE FOR TRANSFORMATION OF KARNATAKA (SITK)

Government of Karnataka has reconstituted Karnataka State Policy and Planning Commission on the lines of NITI Aayog as State Institute for Transformation of Karnataka (SITK) on 6.8.2022, which is aimed at Nava Karnataka contribute significantly to Nava Bharat (SDG 2030 and Vision 2047). SITK mainly focus on Decentralized Planning,

Strategy formulation and Outcome based Evaluation for effective implementation of outcome-based budgeting. A budget Rs. 150 crores annually have been allocated. Hon'ble Chief Minister is the Chairman, vice chairman is a domain expert and Additional Chief Secretary of Planning Department is the Chief Executive Officer. Organisational structure also includes Ministers, Secretaries, 8 sectoral experts being selected through a Grand challenge method normally used for START UPs suitably assisted by technical divisions of planning and evaluation besides Eminent Government and Non-Government Institutions as partner institutions.

The existing divisions of Planning Department such as Karnataka Evaluation Authority, Technical Divisions, Library and Publication and Administrative Division provide support to SITK. On the lines of Development Monitoring and Evaluation Office (DMEO) of NITI Aayog, Karnataka Evaluation Authority (KEA) is renamed as Karnataka Monitoring and Evaluation Authority (KMEA) to promote monitoring and evaluation ecosystem in the state and take up all evaluations of schemes with a budget of more than 100 crores once in plan period. In future KMEA will play a pivotal role for improving the efficacy of programmes/policies.

WAY FORWARD

In order to improve the Good Governance Index of Karnataka from the existing 5.11 to 5.66 (Gujarat-Best performing state) and Ease of Doing Business, which is also part of Good Governance Index, actions points are as follows:

- ❑ Accomplishing the goal of Open Government Data for all State departments.
- ❑ Onboarding all remaining departments on e-Governance and g-Governance initiatives/platforms
- ❑ Training the departments regarding the data standardization and Data Digitization
- ❑ Create one-platform-for-all for the citizens to become aware of various government initiatives and allow them to take part in various capacities.
- ❑ Visualize and showcase the success of government achievements through success stories to motivate other citizens to make use of government initiatives.
- ❑ Institutionalization of Digital Dialogue Meetings at the grassroots level in supporting decentralized planning and program implementation
- ❑ During 2022-23, to KKRDB Rs. 1,500 Crore each is provided for mico plan and mega projects, totalling to Rs. 3000 Crore.
- ❑ The Directorate of Economics and Statistics, under Planning, Programme Monitoring and Statistics Department is a data mining platform and is responsible for providing the necessary database for formulation of programmes and policies by the State. At present it emphasizes more on data collection and less on data analysis. Further, the department has voluminous time series data on area, yield and production on various crops which also requires analyst. Besides, the department has collected huge data on 45.19 lakh economic enterprises as a part of 7th Economic Census. It needs analyst to give us insight into that industrial scenario, productivity, geographical spread, female participation etc. Hence, the department will be strengthened with the domain experts in education and health, industries and commerce and Economics

and statistics for data analytics in future. The focus will also be on improving the quality of data and aligning the data with SDG goals.

- ❑ SDGCC will involve in localizing SDGs through IEC and BCC activities to promote SDG ecosystem upto GP level in collaboration with departments.
- ❑ SITK to focus on Decentralized Planning, Strategy formulation and Outcome based Evaluation for effective implementation of outcome-based budgeting with the support of attached officers.
- ❑ Increasing importance and usefulness of Evaluation of Schemes is evident that Government of Karnataka has made a budget announcement that schemes/projects with annual outlay more than Rs. 100 crores to be evaluated mandatorily once in plan period (budget para 184 of 2021-22). Recommendations from evaluation studies of Karnataka Evaluation Authority has provided useful insights to the departments for mid-course policy corrections and improving the efficacy of the schemes apart from policy formulation (IFS, Anti-superstition Act, promotion of financial literacy and digital payment systems for SHGs, Convergence of the scheme with Swadhar Graha and Ujjwala schemes is being done & the helplines 1091 and 181 are merged, Dedicated feeders for IPs, Redesigned Bhagyalakshmi scheme allows for withdrawal of a portion of the total amount of Rs.1.27 lakh to be withdrawn at the age of 18 for pursuing education and the remaining at 21 years, provided suggestions for improving EoDB ranking and so on)
- ❑ Capacity building of staff on Data collection/integration, data analytics and evidence-based policy making through PPP.

To conclude, good governance initiatives have positive impact on social and economic development. It is predicted that digital economy's contribution alone will increase GDP from 7-8% to over 20% in the next 5 years at all India, which is even more in the case of Karnataka State.

Appendix 12.1 : KARNATAKA AT A GLANCE

Sl. No.	Item	Units	1961	1971	1981	1991	2001	2011
1	Geographical Area	'000 Sq.Km.	192	192	192	192	192	192
Administrative Setup								
2	Revenue Divisions	No.	4	4	4	4	4	4
3	Districts	-do-	19	19	19	20	27	30
4	Taluks	-do-	175	175	175	175	175	176
5	Inhabited Villages	-do-	26377	26826	27028	27066	27481	27397
6	Uninhabited Villages	-do-	2972	2707	2362	2127	1925	1943
7	Towns	-do-	231	245	281	306	270	347
Population as per Census			1961	1971	1981	1991	2001	2011
8	Total	(in 000s)	23587	29299	37136	44977	52851	61095
9	Males	-do-	12041	14972	18923	22952	26899	30967
10	Females	-do-	11546	14327	18213	22025	25952	30128
11	Rural	-do-	18320	22177	26406	31069	34889	37469
12	Urban	-do-	5267	7122	10730	13908	17962	23626
13	Scheduled Castes	-do-	3117	3850	5595	7369	8564	10475
14	Scheduled Tribes	-do-	192	231	1825	1916	3464	4249
15	Density of Population	Per Sq.Km.	123	153	194	235	276	319
16	Literacy Rate	Percentage	29.80 ^a	36.83 ^a	46.21 ^b	56.04 ^b	66.60 ^b	75.36 ^b
17	Sex Ratio	Females per 1000 males	959	957	963	960	965	973
18	Urban Population	Percentage	22.33	24.3	28.89	30.92	33.99	38.7
State Income - at Current Prices			1970-71	1980-81	1990-91	2000-01	2011-12	2022-23
19	State Income	Rs.Crore	2016	5587	20551	96348	606010	2241368
20	Primary Sector	-do-	1063	2573	7626	31473	80051	331443
21	Secondary Sector	-do-	418	1160	4734	18684	158299	406860
22	Tertiary Sector	-do-	535	1854	8191	46191	313863	1314711
23	Per capita Income	Rupees	696	1520	4598	18344	90263	301673
Agriculture			1970-71	1980-81	1990-91	2000-01	2010-11	2020-21
24	Net Area Sown	'000 Ha.	10248	9899	10381	10410	10523	11453
25	Gross Cropped Area	-do-	10887	10660	11759	12284	13062	14910
26	Gross Irrigated Area	-do-	1355	1676	2598	3271	4278	6065
27	Gross Irrigated Area to Gross Cropped Area	Percentage	12.45	15.72	22.09	26.63	32.75	40.67
Area under Principal Crops			1970-71	1980-81	1990-91	2000-01	2010-11	2020-21
28	Rice	'000 Ha.	1170	1114	1173	1483	1539	1514
29	Wheat	-do-	343	322	198	266	255	207
30	Jowar	-do-	2224	1991	2155	1782	1244	765
31	Bajra	-do-	562	564	425	462	309	226
32	All Cereals	-do-	5971	5573	5415	5757	5446	5302
33	All Pulses	-do-	1444	1531	1621	2047	2791	3190
34	Total Foodgrains	-do-	7416	7104	7036	7804	8237	8493
35	Sugarcane Harvested Area	-do-	NA	NA	NA	NA	437	452
36	Cotton	-do-	1142	1012	596	552	547	837
37	Groundnut	-do-	1027	790	1212	1063	846	735

Production of Principal Crops			1970-71	1980-81	1990-91	2000-01	2010-11	2020-21
38	Rice	'000 tonnes	2000	2258	2428	3847	4474	4718
39	Wheat	-do-	130	174	123	250	300	262
40	Jowar	-do-	1565	1506	1282	1547	1346	904
41	Bajra	-do-	211	192	203	342	292	316
42	All Cereals	-do-	5235	5714	5705	10004	12257	13961
43	All Pulses	-do-	511	488	539	956	1533	2066
44	Total Foodgrains	-do-	5746	6202	6244	10960	13790	16027
45	Sugarcane	-do-	8106	12127	20750	42924	42277	42317
46	Cotton ^c	-do-	570	597	640	855	1150	2316
47	Groundnut	-do-	780	475	816	1081	600	720
Agricultural Census			1980-81	1990-91	2000-01	2005-06	2010-11	2015-16
48	No. of Operational Holdings	in '000s	4309	5776	7029	7581	7832	8681
49	Area of Operational Holdings	in '000s ha.	11746	12321	12307	12385	12162	11805
50	Average size of Operational Holdings	in. Ha.	2.73	2.13	1.74	1.63	1.55	1.36
Live Stock Census			1977	1983	1990	1997	2007	2019
51	Total Livestock	'000s	21800	24680	24968	30688	32883	30332
52	Total Poultry	-do-	9696	12096	15694	21399	42433	59494
Forest			1970-71	1980-81	1990-91	2000-01	2010-11	2020-21
53	Forest Area	'000 Ha.	3621	3838	3872	3828	4335	3073
Factories			1981	1991	2001	2011	2020-21	2021-22
54	Working Factories	No.	4985	7768	9440	13889	20831	17192
55	Employees	-do-	434202	777900	903895	1393910	1642799	1658847
56	Employees per lakh population	-do-	1169	1730	1710	2280	2283	2241
Industrial			2008-09	2009-10	2010-11	2018-19 ^e	2019-20 ^e	2021-22 ^e
Project investments - Rs.3.00 Crore to Rs.50.00 Crore								
57	Projects Approved	No.	310	359	439	156	141	610
58	Investments	Rs. in Crore	5182	7750	6880	12121	6567	44973
59	Employments	No.	135623	115932	110505	72427	33708	133701
Project investments - above Rs.50.00 crore								
60	Projects Approved	No.	50	110	186	5	6	393
61	Investments	Rs. in Crore	105266	288549	187186	4388	15045	237148
62	Employments	No.	410842	284934	580161	51959	21028	195152
Electricity			1970-71	1980-81	1990-91	2000-01	2010-11	2021-22
63	Total Generation	in Mus	4833	6389	12431	21985	47112	75671
64	Total Consumption	-do-	3187	5189	12182	17860	37202	73418
65	Industrial Consumption	-do-	2488	3864	5429	4882	8425	9743
66	Agricultural Consumption	-do-	179	384	4486	7350	12802	22061
67	Domestic Consumption	-do-	217	696	1803	3909	7893	13454

Banking			1970-71	1980-81	1990-91	2000-01	2010-11	2021-22
68	Scheduled Commercial Banks	No.	1190	2823	4245	4758	6291	10780
69	Deposits	Rs. Crore	369	2042	9665	55592	349009	1382552
70	Advances	-do-	275	1524	7985	32984	253121	308639
Education			1970-71	1980-81	1990-91	2000-01	2010-11 ^a	2021-22
71	Primary Schools	No.	32630	35143	40208	50340	59428	62964
72	Enrolment	'000s	4064	4974	6922	8581	7425	8200
73	High Schools	No.	2002	2381	5020	8928	13447	17127
74	Enrolment	'000s	483	713	1334	1955	2604	2182
Health			1970-71	1980-81	1990-91	2000-01	2010-11	2021-22
75	Hospitals (Govt.)	No.	195	233	293	297	382	12591
76	Beds per lakh population (Govt. Hosptials)	-do-	89	94	104	105	112	117
Demographic Status			1970-71	1980-81	1990-91	2000	2010	2020
77	Birth Rate	'000s	31.7	28.3	26.9	22.2	19.2	16.5
78	Death Rate	'000s	12.1	9.1	9	7.6	7.1	6.2
79	Infant Mortality Rate	Per 1000 Live Births	69	69	77	58	38	19
Transport			1970-71	1980-81	1990-91	2000-01	2010-11	2021-22
80	Railway Route Length	Kms.	2806	2875	3093	3172	3172	3711
81	Total Road Length	-do-	70383	109551	130924	154204	222431	288814
82	Motor Vehicles	'000s	123	400	1433	3691	9930	27011
Co-operation			1980-81	1990-91	2000-01	2010-11	2020-21	2021-22
83	Primary Agricultural Credit Co-Operative Societies	No.	4871	4350	4388	4914	5927	5979
84	Membership	'000s	3692	4469	5245	8992	7868	7991
85	Total No. of Co-operative Societies	No.	23159	25083	29930	35502	44642	46705
86	Total Membership	'000s	8289	11800	16167	21534	23128	25218
Local bodies			1990-91	2000-01	2010-11	2019-20	2020-21	2021-22
87	Zilla Parishat/Panchayat	No.	20	27	30	30	30	31
88	Taluk Panchyats	-do-	175	175	176	227	227	235
89	Gram Panchayats	-do-	2532	5692	5627	6010	5977	5955
90	Municipalities and Corporations	-do-	177	209	219	287	306	319

Source:

1. Statistical Abstract of Karnataka 1960-61,1967-98,1970-71,1973-74,1983-84,1993-94,2000-05,2011-12 & 2020-22
2. Karnataka at a Glance: 1961-62, 1970-71, 1980-81, 1990-91, 2000-01,2009-10,2011 Census, 2011-12, 2012- 13, 2013-14, 2014- 15 & 2015-16. 2016-17, 2017-18, 2018-19, 2019-20 & 2020-21
3. Agricultural statistics 2020-21
4. Hand book of statistics on Indian states 2021-22

Note :

- a. Population aged 5 years and above
- b. Population aged 7 years and above
- c. Bales of 170 Kgs. In lint form
- e. Project investments - Rs.15 to 500 crores and above Rs 500 crores from 2016-17
- f. 1-7th Standard Primary and 8-10 Secondary Schools
- g. 1 to 8 Standard Primary and 9 to 10 Standard Secondary Schools.

Appendix 12.2 : KARNATAKA COMPARED WITH INDIA

Sl. No.	Item	Unit	Karnataka	India
Population as per 2011 Census:				
1	Total	'000s	61095	1210570
2	Males	-do-	30967	623122
3	Females	-do-	30128	587448
4	Rural Population	-do-	37469	833463
5	Percentage of Rural Population to total population		61.33	68.85
6	Urban Population	'000s	23626	377106
7	Percentage of Urban Population to total population		38.67	31.15
8	Sex Ratio	Females per 1000 Males	973	943
9	2001-2011 Decadal Growth of Population	Percent	15.60	17.70
10	Literacy Rate	Percent	75.36	73.00
11	Population of SC/ST (2011 population Census)	'000s	14721	305633
12	Total Workers (2011 Census)	-do-	27873	481743
13	Geographical Area (2011Census)	Lakh Sq.Kms.	1.92	32.87
14	Net Area sown 2015-16	'000 ha.	10006	139506
15	Gross Cropped Area 2015-16	-do-	12009	197054
16	Gross Irrigated Area 2015-16	-do-	3742	96620
17	% of Gross Irrigated Area to Gross Cropped Area 2015-16		31.16	49.03
Area under Principal Crops (2020-21) :				
18	Rice	'000 ha.	1514	4507
19	Maize	-do-	1762	986
20	Jowar	-do-	765	424
21	Wheat	-do-	207	3161
22	Bajra	-do-	226	757
23	Total Food Grains	-do-	8493	12934
24	Total Pulses	-do-	3190	2883
25	Sugarcane	-do-	452	486
26	Cotton	-do-	837	1301
27	Groundnut	-do-	735	609
28	Total Livestock - 2019	'000s	30332	535785
29	Forest Area -2021	'000 ha.	3073	713789
State/Nation Income at Current Prices (2021-22)				
30	Gross Income	Rs.Crore	2241368	27307751
31	Net Income	-do-	20136748	24103540
32	Gross per capita Income	Rs.	331981	197453
33	Net Per capita Income	-do-	301673	170620

COORDINATOR & NODAL OFFICER OF ECONOMIC SURVEY – 2022-23

#	Chapter Title	Coordinators	Nodal Officers
	Executive Summary	Dr. Manjunatha.AV Director, KEA, Planning Department	
1	State Income and Prices	Sri. K.Narasimha Phani Joint Director, DES	
2	Fiscal Development and State Finances	Dr. B. Janakiram Senior Director, Planning Department	
3	Investment and Exports	Sri. M. Rajanna Joint Director, DES	
4	Rural Development	Sri. K.Gururaja Rao Senior Director, Planning Department	
5	Urban Development	Smt. Latha Devi Joint Director, Planning Department	
6	Agriculture and Food Management	Sri. C. Kempiah Senior Consultant, DES	Smt. T.S.Girija Deputy Director, DES
		Smt. Manjula Rathod Joint Director, DES	Smt. Madhuri S Tavaga Deputy Director, DES
7	Natural Resource Management and Environment	Smt. S.K Kalpana Director, Planning Department	Smt. Shakuntala.C.N Deputy Director, Planning Department
			Sri. Omprakash Raju Deputy Director, Planning Department
8	Industry	Sri. Suryaprakash Deputy Director, DES	Smt. Annapoorneshwari Assistant Director, DES
9	Skill, Entrepreneurship, Employment and Labour Welfare	Sri. Venkatesh Deputy Director, Planning Department	Smt. Shanthi Joint Director, Planning Department
10	Economic Infrastructure	Sri. T.Shashidhar Administrative Officer, KEA Planning Department	Smt. Rajani.S Deputy Director, Planning Department
			Smt. K.S.Nagarathna Under Secretary, Institutional Finance, Finance Department
11	Human Development	Sri. C.Kempiah Senior Consultant, DES	Smt. Suma D Mirajkar Joint Director, Planning Department
			Smt. Savitha Dayanand Deputy Director, KEA, Planning Department
			Sri. Naramshimappa.G Joint Director, DES
12	Good Governance Practices In Karnataka	Dr. Manjunatha.AV Director, KEA, Planning Department	Sri D. Chandrashekaraiah Director, Planning Department
			Sri. Manjunath R, Assistant Director, DES
			Dr. Raghu, Research Officer, SITK
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