CHAPTER - 1

# STATE OF THE ECONOMY

## Introduction

Karnataka is among the Top 5 states in India and has demonstrated strong growth over the years. Its per-capita Gross State Domestic Product (GSDP) of INR 3.05 lakhs (estimated for FY 22) is the highest among the Top 5 states. A standout feature of the state economy is it has the highest share of services in the Gross State Value Added (GSVA) of 66.1% in FY 22(E)—the highest among all states, a product of its robust IT services industry and other technology-driven areas. Karnataka is also a major job producer, having produced 10% of the formal jobs in the country while contributing 8.8% to the national Gross Domestic Product) and constituting less than 5% of the population. Karnataka has certainly done well in the past but now, post the COVID-19 pandemic and the resulting recessionary effect, there is a need to re-orient its strategies by studying the particular needs of its citizens, its demographics, and its sectoral composition. Every state must do this now. Karnataka can be a leader to demonstrate to other states how a high-growth strategy can be formulated based on data analysis..

## 1.1 Economic growth and COVID-19 impact analysis

Advanced estimates of Karnataka's GSDP in nominal terms for FY 22 is INR 20.5 lakh crore, up from INR 17.31 lakh crore in FY 21. It is contributing 8.8% to the national GDP of INR 232.15 lakh crore in FY 22. The state grew by 7.2% in nominal terms during the pandemic-struck FY 21, compared to -3% recession of the national economy. In FY 22, Karnataka is estimated to grow at a robust growth rate of 18.4%, compared to 17.5% for India.

**Table 1.1: Gross State Domestic Product at current prices of Karnataka state, with composition of GSDP and per-capita GSDP from FY 17 to FY 22**

| Gross State Domestic Product (INR lakh crore) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Product Sector | 2016-17 | 2017-18 | 2018-19 | 2019-20 (SRE) | 2020-21 (FRE) | 2021-22 (AE) | 5-year CAGR FY 17-22 |
| Agriculture | 1.19 | 1.50 | 1.53 | 1.81 | 2.24 | 2.57 | 16.6% |
| Industry | 2.69 | 2.90 | 3.19 | 3.14 | 3.04 | 3.61 | 6.1% |
| Services | 6.96 | 7.59 | 8.64 | 9.76 | 10.40 | 12.06 | 11.6% |
| GSVA | 10.83 | 11.99 | 13.36 | 14.71 | 15.68 | 18.24 | 11.0% |
| Net Taxes | 1.24 | 1.34 | 1.40 | 1.44 | 1.63 | 2.25 | - |
| GSDP | 12.08 | 13.33 | 14.76 | 16.15 | 17.31 | 20.49 | 11.2% |
| YoY growth rate | 15.5% | 10.4% | 10.7% | 9.4% | 7.2% | 18.4% | - |
| Per-capita GSDP (INR) | 1.86 | 2.05 | 2.25 | 2.44 | 2.60 | 3.05 | 10.4% |
| YoY growth rate | 14.3% | 10.4% | 9.5% | 8.4% | 6.5% | 17.4% | - |

*Source: Directorate of Economics and Statistics, Govt. of Karnataka*

**Table 1.1** shows the composition of Karnataka's GSDP over the last half-decade. In FY 22, GSDP comprises of INR 2.57 lakh crores from the agriculture sector, INR 3.61 lakh crore from the industry sector and INR 12.06 lakh crore from the services sector, totaling to INR 18.24 lakh crore of GSVA. GSDP in FY 21 was INR 17.31 lakh crore, amounting to 18.4% growth in FY 22, marking a robust recovery after the pandemic. GSDP in FY 20 was INR 16.15 lakh crore, amounting to 7.2% growth in FY 21, a dampened year due to the COVID-19 pandemic. The effects of the pandemic and ensuing lockdowns show up in FY 20 itself with 9.4% YoY growth – a sub-10% year compared to the previous 14.4% in FY 16, 15.5% in FY 17, 10.4% in FY 18 and 10.7% in FY 19. The 5-year CAGR of Karnataka's GSDP from FY 17 to FY 22 is 11.2%.

Per-capita GSDP is INR 3.05 lakh, growing at 17.4% over INR 2.6 lakh in FY 21. In FY 21, however, per-capita GSDP grew by 6.5% due to the pandemic. Per-capita income grew at 13.1% in FY 16, 14.3% in FY 17, 10.4% in FY 18, and 9.5% in FY 19, slowing down rapidly with the pandemic. 5-year CAGR of pre-capita income is 10.4%.

The agriculture sector grew at 16.6% CAGR in five years. The sector has the largest portion of the workforce dependent on it, as well as the most government support and subsidies which supported its growth even during the pandemic. The industry sector's growth, which severely lags both agriculture and services, is 6.1%, which signifies that the structures to support this sector are inadequate and require investment, incentives and a structured movement to skill and transfer excess agricultural workforce to industry.

The services sector, the mainstay of the Karnataka economy is growing at 11.6% CAGR. Multiple services sectors were directly affected by the pandemic and lockdowns—restaurants, hospitality, primarily air travel among other travel modes, trade and so on. However, the sector rallied towards Q3 and Q4 of FY 21 and through FY 22. The total GSVA's CAGR is 11%, which will increase when the industry sector is accelerated.

Overall, the effect of the pandemic is felt across the whole state economy. Budget estimates for FY 21 GSDP was INR 18 lakh crore—amounting to a difference of nearly INR 70,000 crore. Citizens have felt a loss, with increased healthcare spending, depletion of savings, and other uncertainty losses. The state has, however, rallied towards the end of FY 21 and continues to do so through FY 22. Economic targets have suffered a setback, and the state now requires a focused agenda, balanced budgeting and workforce rebalancing to get back on target and achieve its SDG goals and USD 1 trillion vision in the next decade. A detailed study of the state economy is provided in Chapter 2 on "State Economy, Prices and Inflation".

### 1.2 Composition of the Economy

**Table 1.2** contains the contribution of each of the three major sectors—agriculture, industry and services, to the state economy. A standout feature of Karnataka's economy is the significant contribution of the services sectors. Pre-pandemic, in FY 20, the services sector contributed 66.3% to GSVA, followed by 21.3% by the industry sector and 12.3% by the agriculture sector. The pandemic dampened industrial growth more than the other sectors. As a result, in FY 21, industrial share has decreased to 19.4%, while services remains at 66.3% and agriculture has jumped to 14.3%. Agricultural growth has been supported by favourable monsoons, significant budget spends and subsidies. This new composition with dampened industrial contribution has continued in FY 22.

| Table 1.2: Composition of Gross State Value Added of Karnataka state over FY 20 and FY 21 | | | | |
|---|---|---|---|---|
| **Product Sector** | **% GSVA 2019-20** | **% GSVA 2020-21** | **% GSVA 2021-22** | **5-year CAGR** |
| Agriculture | 12.3% | 14.3% | 14.1% | 16.6% |
| Industry | 21.3% | 19.4% | 19.8% | 6.1% |
| Services | 66.3% | 66.3% | 66.1% | 11.6% |
| GSVA | 100.0% | 100.0% | 100.0% | 11.0% |
| *Source: Directorate of Economics and Statistics, Govt. of Karnataka* | | | | |

**Services**

A significant pillar for Karnataka's substantial services economy is the IT industry and the accelerating startup ecosystem. Indian software exports in the current FY is pegged to be USD 170 billion, of which Karnataka's share is an estimated 38%. More than 21 lakh people are employed in the software industry with high paying jobs, centered mostly in Bengaluru city. Further, the state has more than 40 unicorns (companies with valuation of more than USD 1 billion)—42% of India's total of 95 unicorns. It has 13,000+ startups today, many of whom proved invaluable in the country's fight against the COVID-19 pandemic. Karnataka received more than USD 16 billion in FDI in the pandemic struck FY 21, signifying the potential of its technology-based growth engines.

In 2011-12 prices, the service sector constitutes 70.85% of total GSVA in FY 20. It also made up 8.53% of total services GVA for India in the same year. In the last few years, employment had primarily been driven by the services sector. Among the districts, Bengaluru Urban leads with 83.4% services sector value added, with Dharwad and Hassan after it. This clearly shows that urbanisation and the service sectors create high paying jobs. From FY 12 to FY 19, Bengaluru Urban led the state with an average growth rate of 10.6% GVA from services.

Tourism also has high potential to create jobs and the state must invest heavily in this area. Karnataka must have a special focus on the various areas of the service sector to increase job opportunities for its citizens. Growth and strategies in services is discussed in detail in Chapter 11 on "Service sector performance in Karnataka".

Further, major growth drivers for the services sector are investments and export-orientation, of which Foreign Direct Investment (FDI) has a significant role. China drove its unpreceded economic growth to become a Top 2 economy today by harnessing the power of FDI. There is a robust growth in India's FDI. Karnataka receives 25.7% of total FDI with an all-time high of USD 25.91 billion between Oct 2019-June 2021. Karnataka is also an export powerhouse with total exports going up from INR 5.49 lakh crore in FY 17 to INR 6.93 lakh crore in FY 21, led by software exports of INR 5.86 lakh crore. This buoyancy continues in FY 22 with total exports up to INR 4.26 lakh crore till September 2021. Electronics and software together make up 80%+ of total exports. Karnataka's exports also made up 18.9% of total exports from India in FY 21. A full analysis on investments and exports is provided in Chapter 3 on "Investment and Exports"

## Financial Services

The banking and financial services sub-sector under the larger services umbrella is a promising growth driver. Chapter 5 on "Banking and Financial Inclusion" analyses the banking system in Karnataka and makes some very interesting observations. India's bank credit to GDP went up from 25% in FY 92 to 58% in FY 21. However, Karnataka's bank credit to GSDP was only 40.5% in FY 21. Karnataka is a high-deposit and -savings state but bank lending is rather low and savings are lent elsewhere across India. This needs to be examined to increase bank lending in the state itself to accelerate growth.

## Industry

The industrial sector in Karnataka has been a laggard, growing at only 6.1% CAGR over the last 5 years in GSVA, as against 16.6% CAGR for agriculture and 11.6% CAGR for services in the same period. This obviously has dragged down the growth rate for Karnataka and the creation of jobs. Industry as a segment of GSVA is 19.4% in Karnataka in FY21, lower than Gujarat at 48.2%, Tamil Nadu at 33%, and Maharashtra at 28.4%, which again shows that despite the high share of services there has been inadequate attention paid to industry.

An exhaustive analysis of industry is undertaken in Chapter 9 on "Industry, Innovation and Infrastructure". Karnataka leads India in innovation with a score of 42.50 as per the India Innovation Index of NITI Aayog. It has a high share in total FDI into India and an 18%+ share in India's exports. Karnataka offers reasonable infrastructure for industry, but power consumption continues to stagnate due to the high cost of power for the industrial sector. In FY 17, power consumption was 54,183 million units (MU) and remained at 54,284 MU in FY 21 with almost stagnant power generation. Industry consumption has remained small at only 7,500+MU while agricultural consumption is nearly 3 times that. This needs a paradigm shift to increase industrial growth. Captive power generations seem to be the preferred source for industry. Karnataka makes up 20% of renewable power generation and has the highest solar installation capacity in India, which can be capitalized to provide more options for industrial consumption and growth.

Chapter 10 on "Reviving MSMEs in Karnataka", a vital pillar of the industry sector, details the status of MSMEs in the state. The state has more than 8.5 lakh MSMEs that provided employment to over 55 lakh people. The pandemic has impacted the MSMEs further. An out-of-the-box approach is required to grow this sector which will focus on solving the challenges like lack of access to capital with a very low share of loans given to MSME despite higher rates of bank deposits, lack of adequate equity capital, lower productivity and reduced ease of doing business, which fell to 17 in 2019.

Chapter 21 on "Natural Resources Management" details the natural resources of Karnataka and their usage in development. The state is richly endowed with forests, water and minerals. Forest accounts for the largest land use after agriculture, and huge tracts are managed as reserve forests. The western ghats have high biodiversity and are a treasure trove of rare flora and fauna. Water resources in the form of rivers, lakes and other water bodies are an irreplaceable asset. The state's rich mineral resources are being managed well under the revamped mineral policies of the Central and State governments.

## Agriculture

To accelerate agriculture sector growth, it is necessary to understand the trend of the sub-sectors. The Gross Value Output (GVO) of various crop segments in India is shown in Table 1.3 from FY 12 to FY 19. Cereals, growing at 8.2%, is the largest segment with INR 5.86 lakh crore GVO in FY 19 and consists of nearly half of the entire crop group shown with a GVO of INR 12.6 lakh crore. Most of these crop segments, cereals included, have a Minimum Support Price (MSP) guaranteeing a minimum income for the farmer and protecting their interests—farmers reportedly accrue 80-85% of the total price due to the MSP program which is marked close to the final market price.

**Table 1.3: Gross Value Output of different crop groups at current prices in India.**

| GVO of different crop groups at current prices - India (INR crore) | | | | | | |
|---|---|---|---|---|---|---|
| **Crop- group** | **2011-12** | **2013-14** | **2015-16** | **2017-18** | **2018-19** | **CAGR** |
| cereals | 3,36,359 | 4,22,128 | 4,31,970 | 5,23,810 | 5,85,544 | 8.2% |
| pulses | 52,151 | 68,129 | 94,787 | 1,24,764 | 1,10,081 | 11.3% |
| oilseeds | 1,06,654 | 1,32,506 | 1,23,411 | 1,48,484 | 1,52,730 | 5.3% |
| sugars | 76,048 | 93,685 | 96,138 | 1,17,417 | 1,22,035 | 7.0% |
| fibres | 81,944 | 87,847 | 70,845 | 88,392 | 84,563 | 0.5% |
| other crops | 91,975 | 1,04,961 | 99,554 | 99,176 | 95,551 | 0.5% |
| by products | 68,855 | 86,140 | 89,278 | 99,854 | 99,901 | 5.5% |
| kitchen garden | 5,107 | 7,295 | 8,123 | 9,673 | 9,579 | 9.4% |
| **Total crop** | **8,19,094** | **10,02,690** | **10,14,105** | **12,11,570** | **12,59,982** | **6.3%** |

*Source: Ministry of Statistics and Programme Implementation, GoI*

Crops, however, are gradually becoming a smaller segment of the agriculture sector as a whole, as shown in Table 1.4. In FY 12, crops GVO was INR 8.2 lakh crore which amounted to 43% of the agri sector GVO of INR 19.1 lakh crore. This has gradually decreased to 33.8% of the agri sector GVO of INR 37.3 lakh crore in FY 19. Crops also has the lowest CAGR among the major groups—at 6.3%, compared to 11.2% for fruits & vegetables, 13% for condiments & spices, 13% for livestock and 17.6% for fishing & aquaculture. This signifies a shift in the food habits of Indians, and also that a larger share of farmer income is coming from non-cereal and non-crop sectors. These non-crop sub-sectors are growing rapidly, constituted 66.2% of the sector in FY 19, and do not have MSP. Farmers in these segments, reportedly, only accrue 30-35% of the final price. Facilitating better linkages between the farmers and agricultural producers with the markets through agritech startups will enable these fast-growing segments to rapidly increase incomes and value-adds. The scope for policy measure to increase farmer incomes by facilitating market linkages here is tremendous.

| Table 1.4: Gross Value Output of all agricultural sub-sectors at current prices in India. | | | | | | |
|---|---|---|---|---|---|---|
| GVO of agricultural sub-sectors – India (INR crore) | | | | | | |
| **Sector** | **2011-12** | **2013-14** | **2015-16** | **2017-18** | **2018-19** | **CAGR** |
| crop | 8,19,094 | 10,02,690 | 10,14,105 | 12,11,570 | 12,59,982 | 6.3% |
| fruits & vegetables | 2,87,427 | 4,14,814 | 4,81,405 | 5,88,077 | 6,02,929 | 11.2% |
| condiments & spices | 46,400 | 57,738 | 82,245 | 97,707 | 1,09,832 | 13.1% |
| drugs, narcotics and others | 38,563 | 58,183 | 59,481 | 63,827 | 53,317 | 4.7% |
| livestock | 4,87,751 | 6,46,178 | 8,33,498 | 10,43,079 | 11,48,234 | 13.0% |
| forestry and logging | 1,48,748 | 1,87,083 | 2,20,421 | 2,59,773 | 3,03,250 | 10.7% |
| fishing and aquaculture | 80,105 | 1,15,309 | 1,55,690 | 2,26,759 | 2,49,883 | 17.6% |
| agriculture, forestry and fishing | 19,08,088 | 24,81,996 | 28,46,846 | 34,90,793 | 37,27,427 | 10.0% |
| crop as % of agri | 42.9% | 40.4% | 35.6% | 34.7% | 33.8% | - |
| *Source: Ministry of Statistics and Programme Implementation, GoI* | | | | | | |

A similar analysis of GVO of Karnataka's crop segments in Table 1.5 show cereals at INR 20,900 crore constitute one-third of the crop GVO of INR 61,750 crore in FY 19.

| Table 1.5: Gross Value Output of different crop groups at current prices in Karnataka | | | | | | |
|---|---|---|---|---|---|---|
| GVO of different crop groups at current prices - Karnataka (INR crore) | | | | | | |
| Crop- group | 2011-12 | 2013-14 | 2015-16 | 2017-18 | 2018-19 | CAGR |
| cereals | 15,103 | 17,816 | 16,436 | 20,540 | 20,899 | 4.7% |
| pulses | 3,279 | 5,416 | 6,381 | 7,906 | 8,570 | 14.7% |
| oilseeds | 5,465 | 6,719 | 6,443 | 8,161 | 8,426 | 6.4% |
| sugars | 6,045 | 8,799 | 12,523 | 10,306 | 14,127 | 12.9% |
| fibres | 2,500 | 4,600 | 2,616 | 4,251 | 3,801 | 6.2% |
| other crops | 1,584 | 2,160 | 2,174 | 2,399 | 2,370 | 5.9% |
| by products | 2,729 | 3,052 | 3,302 | 3,118 | 3,055 | 1.6% |
| kitchen garden | 284 | 414 | 441 | 540 | 501 | 8.4% |
| Total crop | 36,990 | 48,976 | 50,316 | 57,221 | 61,748 | 7.6% |
| *Source: Ministry of Statistics and Programme Implementation, GoI* | | | | | | |

Here too, crops, are gradually becoming a smaller segment of the agriculture sector as a whole, as shown in Table 1.6. In FY 12, crops GVO was INR 36,990 crore which amounted to 39.5% of the agri sector GVO of INR 93,682 crore. This has gradually decreased to 33.8% of the agri sector GVO of INR 1.83 lakh crore in FY 19. While India started off with a larger crop percentage in FY 12 at 43%, both Karnataka and India had the same percentage of

33.8% in FY 19—the country's average crop GVO as a percentage of the total agri sector has decreased faster than Karnataka's.

**Table 1.6: Gross Value Output of all agricultural sub-sectors at current prices in Karnataka.**

| GVO of agricultural sub-sectors – Karnataka (INR crore) | | | | | | |
|---|---|---|---|---|---|---|
| Sector | 2011-12 | 2013-14 | 2015-16 | 2017-18 | 2018-19 | CAGR |
| crop | 36,990 | 48,976 | 50,316 | 57,221 | 61,748 | 7.6% |
| fruits & vegetables | 14,703 | 19,711 | 24,148 | 28,605 | 28,254 | 9.8% |
| condiments & spices | 6,297 | 9,495 | 14,508 | 20,373 | 26,648 | 22.9% |
| drugs & narcotics | 6,444 | 5,722 | 6,999 | 8,317 | 8,091 | 3.3% |
| livestock | 18,936 | 23,933 | 28,242 | 35,187 | 39,829 | 11.2% |
| forestry and logging | 7,083 | 7,894 | 10,054 | 10,408 | 12,315 | 8.2% |
| fishing and aquaculture | 3,229 | 4,532 | 5,042 | 7,503 | 5,969 | 9.2% |
| agriculture, forestry and fishing | 93,682 | 1,20,263 | 1,39,308 | 1,67,614 | 1,82,854 | 10.0% |
| crop as % of agri | 39.5% | 40.7% | 36.1% | 34.1% | 33.8% | - |

*Source: Ministry of Statistics and Programme Implementation, GoI*

In Karnataka, crops also has the lowest CAGR among the major groups—at 7.6%, compared to 9.8% for fruits & vegetables, 23% for condiments & spices, 11% for livestock and 9.2% for fishing & aquaculture. These non-crop sub-sectors are growing rapidly, constituted 66.2% of the sector in FY 19, and do not have MSP.

In India, while the total agriculture sector GVO grew at a 7-year CAGR of 10%, crops grew by 6.3% and non-crop sectors grew at a combined CAGR of 12.4%—double that of crops. Similarly, in Karnataka, while the total agriculture sector GVO also grew at a 7-year CAGR of 10%, crops grew by 7.6% and non-crop sectors grew at a combined CAGR of 11.5%. Karnataka must focus on creating better market linkages through agritech startups for these farmers and agricultural producers who are not supported by MSP, enabling them to accrue better prices for their products and increase income.

Chapter 7 on "Agriculture and food management" further details the state of agriculture in Karnataka. Karnataka has 64.6% of land cultivated, largely depending on rainfall with only 26.5% under irrigation. Because of its sheer size, Karnataka is amongst the Top 10 States in many areas. For example, it is the second largest milk producing state in India. However, as can be seen from the data the share of crops especially cereals has been declining as a share of total agricultural output in India and in Karnataka. Fruits and vegetables, spices and condiments, animal husbandry and fisheries have been growing faster than crops, showing increased consumption and demand. There is a need to connect farmers to markets through technology to enable them to get higher income. During the pandemic, the state managed the food situation well along with the centre to ensure that all citizens were able to access adequate food.

| Table 1.7: Comparison of agriculture sector GVO growth rates for India and Karnataka. Other GVO includes fruits & vegetables, condiments & spices, drugs & narcotics, livestock, forestry & logging, and fishing & aquaculture segments | | | |
|---|---|---|---|
| **India** | **Gross Value Output (INR crore)** | | **CAGR** |
| | **2011-12** | **2018-19** | **7-year** |
| Total agri GVO | 19,08,088 | 37,27,427 | 10.0% |
| Crops GVO | 8,19,094 | 12,59,982 | 6.3% |
| Other GVO | 10,88,994 | 24,67,445 | 12.4% |
| **Karnataka** | | | |
| Total agri GVO | 93,682 | 1,82,854 | 10.0% |
| Crops GVO | 36,990 | 61,748 | 7.6% |
| Other GVO | 56,693 | 1,21,105 | 11.5% |
| *Source: Ministry of Statistics and Programme Implementation, GoI* | | | |

A detailed study is required to grow the agriculture sector in tune with the consumption and production trends. Food parks have been part of the government strategy to improve farmers income by increased food processing to ensure value added products. In the recent past, Government of India and the Karnataka state have helped in the creation of Farmer Producer Organizations (FPOs) to aggregate farmers' produce and market it at a higher price. However, the institutional structure has been weak and unable to be scaled up to meet the desired goals. Chapter 8 on "Improving the performance of Food Parks and Farmer Producer Organizations in Karnataka" makes an exhaustive analysis of Food Parks and FPOs. Strategic investment and structural changes are required to entrench the large number of well-funded Agri-tech platforms in Karnataka to connect farmers to markets and increase their incomes.

## 1.3 Karnataka's place in India

Karnataka is among the Top 5 states in India, currently at third position with INR 17.31 lakh crore economy contributing 8.8% to national GDP of INR 197.5 lakh crore. Table 1.8 shows the GDP, growth rate, per-capita GDP and GVA composition of India and of the country's Top 5 state economies in FY 21. Maharashtra at an estimated INR 26.62 lakh crore in FY 21 leads the country contributing 13.5% to national GDP, with Tamil Nadu at INR 19.02 lakh crore contributing 9.6%. Uttar Pradesh (UP) with an estimated INR 17.06 lakh crore contributing 8.6% is fourth with Gujarat at an estimated INR 16.58 lakh crore comes fifth contributing 8.4%. These five states together make up a significant 48.9% of the INR 197.5 lakh crore Indian economy and are crucial growth drivers for the USD 5 trillion and USD 10 trillion national targets over the next decade.

The Indian economy contracted by 3% in nominal terms during FY 21 due to the pandemic. 20% of its GVA comes from agriculture while 26% from industry and the balance 54% from services sectors. Average per-capita GDP was INR 1,45,680. With the exception of UP, all the other Top 5 economies' per-capita GDP is INR 2.3 lakh and above—much higher than the India average. UP's is INR 73,792, half the national average—a result of its massive 22 crore population.

**Table 1.8: Gross Domestic Product, growth rate, per-capita GDP and GVA composition of India and of the country's Top 5 state economies in FY 21**

**India and Top 5 states – Economic growth and composition in 2020-21**

| State | GSDP (INR lakh crore) | % of India's GDP | GSDP growth rate | Per-capita GSDP (INR) | GSVA Composition | | |
|---|---|---|---|---|---|---|---|
| | | | | | Agriculture | Industry | Services |
| Maharashtra* | 26.62 | 13.5% | -5.6% | 2,29,488 | 11.0% | 28.4% | 60.7% |
| Tamil Nadu | 19.02 | 9.6% | 5.9% | 2,49,517 | 12.7% | 33.0% | 54.3% |
| Karnataka | 17.31 | 8.8% | 7.2% | 2,59,803 | 14.3% | 19.4% | 66.3% |
| Uttar Pradesh | 17.06 | 8.6% | 1.1% | 73,792 | 26.1% | 25.0% | 48.9% |
| Gujarat* | 16.58 | 8.4% | 0.6% | 2,40,914 | 15.6% | 48.2% | 36.2% |
| **India** | **197.46** | **100%** | **-3.0%** | **1,45,680** | **20.2%** | **25.9%** | **53.9%** |

*Source: Ministry of Statistics and Programme Implementation, GoI.*
*Note: * Maharashtra and Gujarat are yet to release FY 21 advance estimates. Instead, provisional estimates from Budget 2021-22 have been used here.*

The compositions of the Top 5 state economies are all quite different and vary significantly from that of India's too. UP has the highest agricultural dependence at 26%, with industry at 25% and services at 49%. Gujarat's agricultural GSVA composition is 15.6%, with services at 36.2% and industry at a whopping 48.2%. It has demonstrated how to sustainably industrialize and is the only state with industrial contribution close to 50%, nearly double the India average of 26%. However, with a low services contribution of 36%, if business-as-usual continues, Gujarat might find it problematic to keep growing dependent on industry when automation and other factors kick in. Instead, it must develop its services sectors to augment its high industry output.

Maharashtra and Tamil Nadu's GSVA compositions are more balanced. 11% of Maharashtra's GSVA comes from agriculture, 28.4% from industry and 60.7% from services. Meanwhile, 12.7% of Maharashtra's GSVA comes from agriculture, 33% from industry and 54.3% from services. They have both mobilized their industrial bases while also driving services sub-sectors to contribute 50%+. While Gujarat can learn from these three states (Maharashtra, Tamil Nadu and Karnataka) on high-growth developing services sectors, the other states must learn from Gujarat how to industrialise sustainably as a vital source of employment and economic growth. Each state must study its unique composition and plan accordingly.

Meanwhile, Karnataka has the most substantial services contribution, at 66.3% of GSVA. This is a direct result of the substantial IT industry which contributes 25-28% of the state economy. It is also due to the sagacious decision taken by successive political leaderships to allow the private sector to compete in the college education sector, thereby allowing for the foundation of a highly skilled workforce in the making. These are all growth engines Karnataka can use to drive its economic growth up in high value-add sectors. However, Karnataka's industrial GSVA of 19.4% is the lowest of the five and also lower than the national average of 26%. It is imperative to also focus on developing the industry sub-sectors like manufacturing and construction to balance the economy and provide large-scale employment.

Chapter 19 on "Outcome based planning and budgeting" in Karnataka details the many innovative approaches and strategies of the state in enhancing the development effectiveness of various programs and projects. This kind of innovative planning and strategy has enabled Karnataka to be one of the Top 5 States in India. The extensive use of data in decision making, and the use of technology in management and evaluation of projects has reaped rich dividends in development activities. The District First strategy, Karnataka Evaluation Authority and the SDG-based development model to end poverty are innovations which have changed the economic future of the state for the better. Post the pandemic, the state needs to focus on growth sectors by increasing focused investments to increase job creation and income of its citizens.

Further, chapter 18 on "Geo-Enabled Good Governance practices in Karnataka" explains the usage of geospatial technologies for governance. Karnataka has been a pioneer in this area, having developed this in a mission mode in 2016-19. This has yielded enormous amount of data on the ground for decision making for soil health surveys, crop survey, beneficiary management systems, sericulture dashboard, among other areas. GIS visualization, in particular, helps localised decision making and optimum use of resources.

### 1.4 Asymmetric workforce-sector dependence

India has a significant asymmetry in workforce-to-sector dependence, as analysed in Table 1.9. While the agriculture sector contribution to the GVA is the smallest—18.4% in FY 20, a normal year, and 20.2% in FY 21, a pandemic year—it has the largest segment of the workforce, and consequently the population, dependent on it. In 2018-19, 42.5% of the workforce depended on agriculture which grew to 45.6% in 2019-20. Workforce data is from the Periodic Labour Force Survey (PLFS) which conducts the survey from July (2019) to June (2020). The rapid increase in agri-workforce percentage is possibly due to the downshift during Q4 of FY 20 and Q1 of FY 21 with the onset of the pandemic leading to the series of national lockdowns and significant labour migration. In FY 20, the industry sector contributed 26.7% to GVA which reduced to 25.9% in FY 21. Meanwhile, 25.2% of the workforce depended on it in 2018-19 which decreased to 23.7% in 2019-20. Lastly, the services sector contributed 55% to GVA in FY 20 dropping to 53.9% in FY 21. Workforce dependence on services correspondingly dropped from 32.4% in 2018-19 to 30.8% in 2019-20.

A similar analysis of Karnataka's workforce-to-sector dependence in Table 1.9 shows a greater skew. 66.3% of Karnataka's GSVA comes from services in FY 21, whose workforce dependence fell from 37.6% in 2018-19 to 33.7% in 2019-20. Industry workforce dependence fell from 21.5% to 19.8% in the same period whereas agricultural workforce grew from 41% to 46.6%. Since workforce data collection in FY 20 was disrupted by the pandemic, for the purposes of further analysis and normalization, the 2018-19 workforce distribution has been used. Moreover, World Bank data shows India's agricultural workforce has reduced from 60% to 42% since 2020, it makes sense to utilize the 2018-19 figures for analysis.

Table 1.10 analyzes the workforce-to-sector dependence for India and Karnataka. In India, the agricultural GVA in FY 21 was INR 36.2 lakh crore, amounting to 20.2% of GVA, with 42.5% of the workforce dependent on it. By assuming that the dependent population percentage is the same as the workforce, 42.5% of India's 139 crore population can be estimated to depend on agriculture i.e. 59.1 crore. Per-capita GVA for the agriculture sector can then be calculated as INR 61,234.

| Table 1.9: Gross Value-Added composition and workforce distribution of India and Karnataka | | | | | | | |
|---|---|---|---|---|---|---|---|
| **India** | **Gross Value Added Composition** | | | | **Workforce Distribution** | | |
| **Sector** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2017-18** | **2018-19** | **2019-20** |
| Agriculture | 20.3% | 19.3% | 18.4% | 20.2% | 44.1% | 42.5% | 45.6% |
| Industry | 26.9% | 26.6% | 26.7% | 25.9% | 24.8% | 25.2% | 23.7% |
| Services | 52.8% | 54.0% | 55.0% | 53.9% | 31.0% | 32.4% | 30.8% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |
| | | | | | | | |
| **Karnataka** | **2017-18** | **2018-19** | **2019-20** | **2020-21** | **2017-18** | **2018-19** | **2019-20** |
| Agriculture | 12.5% | 11.5% | 12.3% | 14.3% | 45.7% | 41.0% | 46.6% |
| Industry | 24.2% | 23.9% | 21.3% | 19.4% | 21.0% | 21.5% | 19.8% |
| Services | 63.3% | 64.7% | 66.3% | 66.3% | 33.3% | 37.6% | 33.7% |
| **Total** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** | **100.0%** |
| *Source: Ministry of Statistics and Programme Implementation, GoI* | | | | | | | |

India's industrial GVA in FY 21 was INR 46.4 lakh crore, amounting to 25.9% of GVA, with 25.2% of the workforce dependent on it. By the same assumption, 25.2% of India's 139 crore population can be estimated to depend on industry i.e. 35 crore. Per-capita GVA for the industry sector can then be calculated as INR 1.33 lakhs. Similarly, 45 crores of India's population can be estimated to depend on services, with a GVA of INR 96.5 lakh crore, yielding a per-capita GVA of INR 2.14 lakhs. The income ratio of an agricultural dependent in India versus that of industry and services is 1:2.2:3.5—this is too high and unsustainable going forward.

| Table 1.10: Estimated per-capita GVA for each sector for India and Karnataka | | | | | | |
|---|---|---|---|---|---|---|
| **India – Sectoral Per-capita Income in 2020-21** | | | | | | |
| **Sector** | **% GVA** | **GVA** | **Workforce distribution (INR cr)** | **Dependent population (cr)** | **Per-capita GVA (INR)** | **Ratio** |
| Agriculture | 20.2% | 36,16,523 | 42.5% | 59.06 | 61,234 | 1 |
| Industry | 25.9% | 46,44,385 | 25.2% | 34.96 | 1,32,854 | 2.2 |
| Services | 53.9% | 96,54,259 | 32.4% | 45.01 | 2,14,500 | 3.5 |
| Total | 100.0% | 1,79,15,167 | 100.0% | 139.00 | 1,28,886 | - |
| **Karnataka – Sectoral Per-capita Income in 2020-21** | | | | | | |
| Agriculture | 14.3% | 2,24,225 | 41.0% | 2.73 | 82,176 | 1 |
| Industry | 19.4% | 3,04,296 | 21.5% | 1.43 | 2,12,908 | 2.6 |
| Services | 66.3% | 10,39,960 | 37.6% | 2.50 | 4,15,625 | 5.1 |
| **Total** | **100.0%** | **15,68,481** | **100.0%** | **6.73** | **2,33,058** | **-** |
| *Source: Ministry of Statistics and Programme Implementation, GoI* | | | | | | |

The same analysis for Karnataka's workforce-to-sector dependence in Table 1.10 shows an even larger skew in incomes. In the state, the agricultural GSVA in FY 21 was INR 2.24 lakh crore, amounting to 14.3% of GVA, with 41% of the workforce dependent on it. Here too, by assuming that the dependent population percentage is the same as the workforce, 41% of Karnataka's 6.66 crore population can be estimated to depend on agriculture, i.e., 2.73 crore. Per-capita GSVA for the agriculture sector can then be calculated as INR 82,176—nearly INR 21,000 higher than the equivalent INR 61,234 for India.

Karnataka's industrial GVA in FY 21 was INR 3.04 lakh crore, amounting to 19.4% of GSVA, with 21.5% of the workforce dependent on it. By the same assumption, 21.5% of Karnataka's 6.66 crore population can be estimated to depend on industry, i.e.,1.43 crore. Per-capita GSVA for the industry sector can then be calculated as INR 2.12 lakhs—INR 80,000 higher than the India average of INR 1.33 lakhs. Similarly, 2.5 crore of Karnataka's population can be estimated to depend on services, with a GSVA of INR 10.4 lakh crore, yielding a per-capita GSVA of INR 4.16 lakhs—nearly double India's average of INR 2.1 lakhs. The income ratio of an agricultural dependent in Karnataka versus that of industry and services is 1:2.6:5.1—much higher than India, and a product of the strong dependence on the services sectors, the IT industry and Bengaluru-centred economic growth..

Looking at the workforce distribution over the years, it is very clear that agriculture provides the least income per-capita to those who depend on it. The share of agriculture in the GVA, even though the sector has higher growth than industry in Karnataka, cannot meet the growing needs of citizens who depend on it for their income. People's economic needs and aspirations have grown; keeping India's population in villages and wholly dependent on agriculture while being unable to meet their economic needs has resulted in high inequity. The state must invest more in industry and services sectors with appropriate policies and skilling its workforce so they can enjoy a higher income status. The dependent population on industry and services combined is 59% against 41% in agriculture, which is expected to decrease even further—this trend requires a rebalancing of the workforce.

### 1.5 Expenditure and Budget Allocation

Rebalancing the workforce from agriculture to higher-wage opportunities in industry and services sectors, in turn, requires a strategic budget and development expenditure outlay with a long-term view of robust economic growth. On a macroeconomic level, it is crucial to note that Central spending is reducing (excluding the pandemic years), while State spending is increasing. As a result, State budget allocations have tremendous effect on socio-economic growth of the citizens of the state and must address their current and future needs.

**Table 1.11** shows the expenditures across the Centre and all States together. Central Gross expenditures are increasing steadily, from INR 17.9 lakh crore in FY 16 to INR 34.8 lakh crore in FY 22—it has doubled, inflation included, in eight years. However, within gross expenditure, the quantum transferred to states has also steadily increased from INR 8.2 lakh crore to INR 15.7 lakh crore in the same period. This is in addition to the states' own expenditures, netting the state total to INR 23 lakh crore in FY 16 which has increased to INR 43 lakh crore in FY 22. Total spending, Centre and State net, has increased from INR 32.7 lakh crore to INR 62.1 lakh crore in the same period. The percentage spending by States was already more than double that of the Centre in FY 16, at 70.4% against

29.6%. This increased to 73.4% in FY 19, then dipped again to 68.4% in FY 20 and 63.3% FY 21, possibly in response to the pandemic where the Centre had to take unprecedented measures for securing the lives and livelihoods of citizens. In FY 22, budget estimates show state spending may once again come close to 70% of total expenditure. In a time when central expenditures are reducing and state spending has increased, state budget allocations have a profound impact on citizens' lives and employment opportunities. It is imperative for every state to study their budget allocation and evaluate whether it's in tune with the socio-economic needs of its citizens.

**Table 1.11: Expenditures across state and centre, from FY 16 to FY 22 (exc. IEBR)**

**Aggregate Expenditures (INR lakh crore)**

| Expenditure Items | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 | 2020-21 (RE) | 2021-22 (BE) |
|---|---|---|---|---|---|---|---|
| A. Central Gross | 17.9 | 20.1 | 21.5 | 23.2 | 26.9 | 35.1 | 34.8 |
| B. Transfers from Centre to States | 8.2 | 9.6 | 10.1 | 11.9 | 11.9 | 13.4 | 15.7 |
| C. Central Net (A-B) | 9.7 | 10.5 | 11.4 | 11.3 | 15.0 | 21.7 | 19.1 |
| D. State Net | 23.0 | 26.4 | 27.7 | 31.3 | 32.5 | 37.4 | 43.0 |
| E. Total Spending (C+D) | 32.7 | 36.9 | 39.1 | 42.6 | 47.5 | 59.1 | 62.1 |
| % Centre (C/E) | 29.6% | 28.4% | 29.1% | 26.6% | 31.6% | 36.7% | 30.8% |
| % State (D/E) | 70.4% | 71.6% | 70.9% | 73.4% | 68.4% | 63.3% | 69.2% |

*Source: Budget Documents, Reserve Bank of India*

Development expenditure for Karnataka state over the last five years is shown in Table 1.12 and grouped under the "Agri/Rural Sectors", "Other Sectors" and "Common Development" headings. The composition of these grouped expenditure portfolios against the total for each year is calculated at the end.

FY 22 budget estimates follows the same trend as the previous four years, with higher combined spending on the agriculture and rural sectors, compared to other sectors and common development. The combined spending on agriculture and rural sectors is INR 58,278 crore (Agriculture & allied- INR 17, 247 crore, Rural Development-Rs.8,916 crore, Special areas program-INR 119 crore, Irrigation, flood control and power-INR 31,996 crore) accounting for 38% of expenditure against INR 39,064 crore for other sectors (25.5% of total spend) and INR 56,142 crore for combined development (36.6%). The differential expenditure impact is even more evident when analyzed per-capita. Thus indicating higher investment but lesser output through agriculture budget.

| Table 1.12: Development expenditure trends in Karnataka state from FY 18 to FY 22 (BE) | | | | | | |
|---|---|---|---|---|---|---|
| Karnataka state development expenditure (INR crore) | | | | | | |
| **Sl no.** | **Sectors** | **2017-18 (A/Cs)** | **2018-19 (A/Cs)** | **2019-20 (A/Cs)** | **2020-21 (RE)** | **2021-22 (BE)** |
| | Agri/Rural Sectors | | | | | |
| 1 | Agriculture & Allied Activities | 19,186 | 18,559 | 23,258 | 18,537 | 17,247 |
| 2 | Rural Development | 5,209 | 9,686 | 7,277 | 9,599 | 8,916 |
| 3 | Special Areas Program | 506 | 160 | 226 | 160 | 119 |
| 4 | Irrigation & Flood Control & Power | 22,480 | 32,521 | 31,069 | 29,982 | 31,996 |
| A | Total (1-4) | 47,382 | 60,926 | 61,829 | 58,278 | 58,278 |
| | Other Sectors | | | | | |
| 5 | Housing & Urban Development | 10,365 | 10,722 | 7,816 | 7,838 | 9,321 |
| 6 | Labour & Employment | 567 | 769 | 9,951 | 10,232 | 10,480 |
| 7 | Industries & Minerals | 2,477 | 2,518 | 2,413 | 2,772 | 2,714 |
| 8 | Transport & Communications | 12,348 | 12,220 | 12,464 | 12,082 | 12,736 |
| 9 | Science & Technology | 96 | 60 | 66 | 60 | 36 |
| 10 | General Economic Services | 5,476 | 3,570 | 4,426 | 3,344 | 3,777 |
| B | Total (5-10) | 31,328 | 29,858 | 37,134 | 36,327 | 39,064 |
| | Common Development | | | | | |
| 11 | Education, Sports and art & Culture | 22,450 | 28,967 | 27,721 | 27,633 | 29,100 |
| 12 | Health & Water Supply | 13,758 | 16,047 | 13,779 | 16,542 | 18,281 |
| 13 | Social Security & Social Welfare | 17,872 | 19,727 | 10,031 | 7,681 | 8,762 |
| C | Total (11-13) | 54,080 | 64,740 | 51,530 | 51,855 | 56,142 |
| | Composition of expenditure (1-13) | | | | | |
| | Agri/Rural Sectors | 35.7% | 39.2% | 41.1% | 39.8% | 38.0% |
| | Other Sectors | 23.6% | 19.2% | 24.7% | 24.8% | 25.5% |
| | Common Development | 40.7% | 41.6% | 34.2% | 35.4% | 36.6% |
| *Source: Planning Department, GoK* | | | | | | |

| Table 1.13: Per-capita development expenditure trends in Karnataka state from FY 18 to FY 22 (BE) | | | | | | |
|---|---|---|---|---|---|---|
| **Sl no.** | **Sectors** | **2017-18 (A/Cs)** | **2018-19 (A/Cs)** | **2019-20 (A/Cs)** | **2020-21 (RE)** | **2021-22 (BE)** |
| | **Weighted Common Development (INR crore)** | | | | | |
| D | Agri/Rural Sectors (41% of C) | 22,173 | 26,544 | 21,127 | 21,261 | 23,018 |
| E | Other Sectors (59% of C) | 31,907 | 38,197 | 30,403 | 30,595 | 33,124 |
| | **Development Expenditure (INR crore)** | | | | | |
| F | Agri/Rural Sectors (A + D) | 69,554 | 87,469 | 82,957 | 79,538 | 81,296 |
| G | Other Sectors (B + E) | 63,235 | 68,055 | 67,537 | 66,921 | 72,188 |
| | Per-capita Expenditure (INR) | | | | | |
| | Agri/Rural Sectors (Popn. 2.73 crore) | 25,472 | 32,033 | 30,380 | 29,129 | 29,772 |
| | Other Sectors (Popn. 3.93 crore) | 16,093 | 17,320 | 17,188 | 17,031 | 18,371 |
| *Source: Planning Department, GoK* | | | | | | |

**Table 1.13** shows a per-capita analysis of the development expenditure. For this, the workforce distribution from FY 19 is taken from Table 1.9 as the baseline, where the workforce dependent of the agricultural and rural sectors is estimated at 41%. The population dependent on these sectors is also estimated at 41%. The balance 59% is estimated to be dependent on other sectors. The common development expenditure (C) from Table 1.12 has been weighted at 41:59 towards the respective sectors to produce D and E. Weighted development expenditure on the agriculture and rural sectors can be estimated to be A + D = F, while the equivalent for the other sectors to be B + E = G. On dividing line items F and G by Karnataka's current population of 6.66 crore weighted by 41:59 distribution (2.73 crore against 3.93 crore), the sectoral per-capita expenditure figures are computed. There is a large difference between the per-capita expenditure for a dependent on the agriculture and rural sectors against a dependent on other sectors. In FY 18, per-capita expenditure for a dependent on the agriculture and rural sectors was INR 25,472 against a dependent on other sectors at INR 16,093. In FY 22, these numbers are estimated at INR 29,772 against INR 18,371. The per-capita expenditure figures underscore the inadequate funding of the industrial, services and urban sectors.

Karnataka is investing heavily in rural development and decentralized planning to improve the lives of the majority of its citizens who still live in rural areas today. The focus has been on housing, rural infrastructure, roads, power connections, water supply, sanitation, communication, and other areas. The state has a substantial MGNREGS program to increase rural jobs and build social assets. Karnataka was amongst the first states to decentralize planning to the grass roots and empower the village panchayats and zilla panchayats. The Activity Mapping process of the state ensures that these entities

become instruments of down accountability. The state has initiated the preparation process of the Grama Panchayat Development Plan. The State has been allocating substantial funds for the districts as well. A detailed analysis has been made in Chapter 14 on "Rural Development and Decentralised Planning".

While the agriculture and rural sectors require this large budget spend to meet their needs, other sectors, too, require similar spending and impetus. This is because (a) 59% of the population depends on other sectors compared to 41% in agriculture and rural economies, as seen above, indicating disproportionate budgeting and (b) Karnataka urgently needs to rebalance its workforce to enable high-income opportunities to all citizens in industry and services where the potential for growth is higher, as demonstrated above. While maintaining the agriculture and rural spending, there is a need to substantially increase budgets in the areas of industry and services and drive formal employment up in the state.

Further, social infrastructure includes sectors of education, health and medical care, nutrition, water supply and housing. In many of these areas Karnataka's outlay on the social sector has declined as a percentage of GSDP from 8.03% in 2015-16 to 5.10% in 20-21. These need to be urgently increased as welfare and increasing employment growth must be the priorities.

Crucially, Karnataka must invest in education and health to ensure that a greater skilled population is created, and also to take care of its rapidly ageing population. Table 1.14 shows in health, the states average spending in FY 12 was 4.2% increasing to 5.5% per FY 22 budget estimates while Karnataka's corresponding percentages are lower—3.9% (FY 12) up to 5% (FY 22 BE). On the other hand, education spending as a percentage of total budgeted expenditure has reduced over the years and needs reassessment. Table 1.14 shows while the states average in FY 12 was 16.3% reducing to 13.9% per FY 22 budget estimates, Karnataka's corresponding percentages are lower—14.7% (FY 12) down to 11.8% (FY 22 BE). While it is true that children in schools has remained constant or declined over the decade, with the maximum decline in govt schools, Higher Education needs much higher allocation to create a world-class knowledge economy.

The additional funding for health and education could emerge from a reassessment in the subsidy spending. Total subsidies in the state budget has been increasing as follows: INR 23,330 crore in FY 19, INR 25,649 crore in FY 20, INR 25,133 crore (RE) in FY 21, INR 23,758 (BE) in FY 22—which makes it among the Top 3 amongst the states for outlay on subsidies. Out of this, the major cost was on power subsidy of more than INR 13,500 crore . However, this subsidy is severely undercut by wastage and leakage, and must be rationalized to improve efficiency and subsequently reduced so part of it can be reallocated. The Karnataka government has set up the K Jairaj Committee to rejuvenate Escoms and fix the financing issues. Today, India has a robust power sector with significant private sector investments alongside the Centre, especially in low-cost green energy, which reduces the need for states to invest in the generation, transmission and distribution. This budget could be reallocated towards higher education and health.

| Table 1.14: Expenditure trends in Karnataka state for education and health sectors in FY 12 & FY 22 (BE) | | |
|---|---|---|
| **Year** | **2011-12** | **2021-22 (BE)** |
| **Education** | | |
| Karnataka | 14.7% | 11.8% |
| All States Avg | 16.3% | 13.9% |
| **Health** | | |
| Karnataka | 3.9%. | 5.0% |
| All States Avg | 4.2%. | 5.5% |
| *Source: Reserve Bank of India* | | |

Moreover, there is a need to assess the entire gamut of state investments in the share capital of different state enterprises. The CAG report on state accounts 2020-21 shows that Karnataka has an investment of INR 67,816 crore in FY 20 and INR 68,256 crore in FY 21. However, the returns as dividend were only INR 53.34 crore (0.08%) in FY 20 and INR 80.70 crore (0.12%) in FY 21. Karnataka has made these investments out of its borrowings. Assuming a nominal cost of borrowing of at least 7% p.y., the holding costs of such investments was INR 4,747 crore in FY 20 and INR 4,777 crore in FY 21—which is again an implicit subsidy.

Karnataka is a resource-rich and people-rich state, and the budget allocations must play to these strengths. The old 1980 paradigm of driving subsidies and state investment in sectors like power when significant private investment is available instead needs reassessment. These budgets could instead be utilized to reorient development post-COVID-19 and increase spending to educate and skill citizens and to ensure better access to health. This will accelerate current growth, fuel future socio-economic growth and drive formal employment.

Chapter 12 on "Social Infrastructure and Human Development" makes a detailed assessment of the state of social infrastructure and human development and suggests areas of focus. Karnataka requires an up-to-date database in this area to ensure effective spending. A latest Human Development Indicators report using the latest data or latest estimates is urgently needed. The NFHS-5 of 2019-20 shows reasonable improvement in many of the HD indicators. A 10-year plan aligned with the SDG targets can be deployed to achieve the goal of a good quality of life for all citizens.

### 1.6 Towards Formalization of Employment

India has gradually been increasing the number of formal jobs in the economy. The data provided by the Employee Provident Fund (EPF) contain valuable indicators to study and understand the trend of formal employment. Since 2017, EPF is releasing monthly data on net new subscribers in that month. EPF applies to entities with 20+ employees across 190 industry classifications. It is a reliable indicator since it records new subscribers every month only upon payment of contribution and classifies them by age group, industry, and state.

| Table 1.15: Net new subscribers to the Employee Provident Fund in India and Karnataka. | | | |
|---|---|---|---|
| Net new subscribers on EPF (lakhs) | | | |
| **Year** | **India** | **Karnataka** | **% KA to India** |
| 2018-19 | 61.1 | 6.2 | 10.1% |
| Ages 22-25 | 17.7 | 2.2 | 12.4% |
| 2019-20 | 78.6 | 8.1 | 10.3% |
| Ages 22-25 | 22.0 | 2.7 | 12.4% |
| 2020-21 | 77.1 | 6.2 | 8.1% |
| Ages 22-25 | 21.0 | 2.1 | 10.1% |
| Apr-Oct 2021 | 72.9 | 8.3 | 11.4% |
| Ages 22-25 | 20.0 | 2.7 | 13.4% |
| *Source: Employee Provident Fund Organization* | | | |

**Table 1.15** shows net new subscribers on the EPF system in Karnataka and India. In FY 19, India had 61.1 lakh new subscribers to the EPF system, which increased 78.6 lakhs in FY 20. In FY 21, the number reduced to 77.1 lakh due to the COVID-19 impact but still demonstrates the Indian economy's strong comeback since the difference between the two years is only 1.5 lakh new subscribers. From April to October 2021, already there are nearly 73 lakh new subscribers, indicating this FY's total will overtake that of FY 20, a normal year.

In FY 19, Karnataka had 6.2 lakh new subscribers on the EPF system—one of India's foremost formal job creation states, contributing 10% to the total, which is more than its GDP contribution at 8.3%. In FY 20, Karnataka created 8.1 lakh new jobs on the EPF system, maintaining its 10%+ contribution. The pandemic year FY 21 saw a drop to 6.2 lakh new subscribers with 8% contribution to the national total. In FY 22, however, Karnataka is rebounding strongly with 8.3 lakh new subscribers already onboarded from April to October, eclipsing its FY 20 total and contributing 11.4% to the national total.

Clearly, Karnataka has already built a robust social security system with its strong services-oriented economy. It can use this foundation to drive formalization up rapidly as it rebalances the workforce towards industry and services sectors. Further, these are formal jobs that provide social security which will become increasingly important as Karnataka's population ages.

Of particular interest is the ability of India and Karnataka to generate formal jobs in the 22-25 age bracket. Every year roughly 2.5 crore people attain the age of 21 in India and 11 lakh people in Karnataka, on average. To maintain a highly productive workforce, it is necessary to generate formal employment on par with the number for graduates graduating from India's massive higher education system. Karnataka is doing significantly well in this regard—12.4% of total national jobs in the 22-25 age bracket in both FY 19 and FY 20. While this dropped to 10.1% in the pandemic year, in FY 22, that number is already up to 13.4%. Karnataka has clearly built a strong growth driver in its formal employment engine and can certainly utilize it to accelerate formalization and socio-economic growth.

Chapter 13 on "Formal and Informal Sector Employment" presents an exhaustive study of the employment and jobs situation in Karnataka and strategizes frameworks to increase formalization in the state economy. The Labour Force Participation Rate for persons above age 15 in the state was 55.5% in 2019-20, above the India average of 53.5%. In the same PLFS 2019-20 study, the unemployment rate was a low 4.2%, with India at 4.8%. Only 27.7% were wage earners as against 23.6% for India. Karnataka needs a comprehensive framework to gather more data and generate an Employment Strategy to enhance job opportunities for its citizens.

Further, the government runs a comprehensive social security program for disseminating pensions to different beneficiaries like seniors, widows, disabled and others. The launch of a world-class IT system to combine all such payments will enable a greater cover of people in need and reduce any double claimants.

### 1.7 State revenues

A study of the financial indicators of Karnataka and the other Top 5 states shown in Table 1.16, demonstrates that that Karnataka's total debt to GSDP is lower than the average for all states and Tamil Nadu and Uttar Pradesh. Of course, the pandemic-struck FY 21 has increased the debt by nearly 3.3% of GSDP. Early indications for FY 22 are that actual debt may be lower than the budgeted debt to GSDP percentage due to buoyancy in tax collections.

**Table 1.16: Total debt, revenue receipts and own tax revenue as a percentage of GSDP for the Top 5 states and states aggregate**

| State | Total Debt as % of GSDP | | | Revenue Receipts as % of GSDP | | | Own Tax Revenue as % of GSDP | | |
|---|---|---|---|---|---|---|---|---|---|
| | 2019-20 (A/C) | 2020-21 (RE) | 2021-22 (BE) | 2019-20 (A/C) | 2020-21 (RE) | 2021-22 (BE) | 2019-20 (A/C) | 2020-21 (RE) | 2021-22 (BE) |
| Maharashtra | 17.1% | 19.9% | 20.4% | 10.0% | 10.9% | 12.4% | 6.7% | 6.9% | 8.2% |
| Tamil Nadu | 25.7% | 29.4% | 31.6% | 9.7% | 9.5% | 9.7% | 6.0% | 5.8% | 6.1% |
| Uttar Pradesh | 32.6% | 35.2% | 34.2% | 21.7% | 18.0% | 21.9% | 7.3% | 7.3% | 9.8% |
| **Karnataka** | **20.8%** | **24.1%** | **25.7%** | **10.8%** | **9.6%** | **9.6%** | **6.3%** | **5.7%** | **6.2%** |
| Gujarat | 20.2% | 22.8% | 21.4% | 8.8% | 8.0% | 8.9% | 4.8% | 5.0% | 5.9% |
| **All States** | **26.3%** | **31.1%** | **31.2%** | **13.1%** | **14.1%** | **15.5%** | **6.0%** | **6.3%** | **7.2%** |

*Source: Reserve Bank of India*

Karnataka's revenue receipts as a percentage of GSDP, too, is lower than the states' average and has come down from 10.8% in FY 20 to 9.6% in FY 22 (BE). As regards to own tax revenue as a percentage of GSDP, Karnataka has been stagnating around 6.3%, whereas Maharashtra's has been higher. Despite being a Top 5 state, Karnataka's own tax revenue is lower than the all-states' average for FY 21 and FY 22 (BE).

| Table 1.17: Development expenditure and non-development expenditure as a percentage of GSDP for the Top 5 states and states aggregate | | | | | | |
|---|---|---|---|---|---|---|
| State | Development Expenditure as % of GSDP | | | Non-Dvpt. Expenditure as % of GSDP | | |
| | 2019-20 (A/C) | 2020-21 (RE) | 2021-22 (BE) | 2019-20 (A/C) | 2020-21 (RE) | 2021-22 (BE) |
| Maharashtra | 6.4% | 7.8% | 7.5% | 3.5% | 4.0% | 4.3% |
| Tamil Nadu | 6.5% | 7.8% | 7.4% | 4.3% | 4.3% | 4.3% |
| Uttar Pradesh | 9.9% | 10.4% | 11.3% | 7.0% | 7.5% | 8.5% |
| Karnataka | 7.3% | 6.8% | 6.4% | 3.0% | 3.6% | 3.7% |
| Gujarat | 5.6% | 6.1% | 5.5% | 3.0% | 3.1% | 3.4% |
| All States | 8.5% | 10.2% | 10.0% | 4.8% | 5.5% | 5.6% |
| *Source: Reserve Bank of India* | | | | | | |

A study of the development expenditure and non-development expenditure as a percentage of GSDP, shown in Table 1.17, among the Top 5 states again shows that Karnataka's spend is less than average and lower than both Maharashtra and Tamil Nadu. A much deeper analysis of the above needs to be undertaken across various parameters to enable the state to increase its own tax revenue and its revenue expenditure to ensure adequate resources for development.

It is useful to benchmark the current state of collections in Karnataka as shown in Table 1.18. FY 20 and FY 21 were impacted by the COVID-19 lockdowns. The current FY 22 has shown great buoyancy in tax revenues. The recent Union Budget shows an unprecedented increase of INR 3 lakh crore over budget estimates. In the case of Karnataka, too, the actual accounts for tax revenues at the end of January 2022 shows there is a growth of 29.1% over the same period in FY 21. As the last two months of the fiscal year normally has over 24% of the total revenues for the year, one can reasonably estimate that tax revenues in the current FY can be in excess of INR 1,52,600 crores, an increase of INR 16,800+ crore over budget estimates. The state's share of Union taxes will be much higher than budget estimates due to the buoyancy in the Union taxes. The SGST, too, is higher as can be seen by the all-time record collections across India in GST in January 2022 of INR 1.41 lakh crore. The total revenue receipts could see an increase of INR 20,000 crore over BE to INR 1,92,266 crore because of the increase in taxes discussed above and in grants-in-aid. In 2022, the five-year period of assured GST returns from the Centre will end. However, other tax engines are expected to ensure continuity in Karnataka's tax buoyancy due to expected high economic growth in FY 23.

If one estimates a 10% increase in revenue receipts for the next year including taxes, non-tax revenues and grants-in-aid, one could estimate revenue to be around INR 2,11,000+ crore. This high growth in revenue in FY 22 and the high growth estimated by the central government for FY 23 set the stage for innovative programs to boost growth and jobs in Karnataka.

Obviously, the borrowing for the current year may be less compared to the pandemic year, and this has been indicated by the reduced borrowing till January 2022. The Government of India used the excess collections of the previous year and the current year to reduce the

borrowings outside the budget and clear all the old claims for expenses and subsidies. Karnataka could evaluate a similar strategy to clear old claims and ensure that FY 23 will be a strong one to accelerate growth further.

**Table 1.18: Karnataka's accounts showing actual collections till January 2022**

**Accounts at a glance at the end of January 2022 (in crore)**

| Sl no. | Description | Budget Estimates (FY 22) | Actuals till Jan 2022 | % Actuals to BE | | Previous year till Jan 2021 | Growth in FY 22 over FY 21 |
|---|---|---|---|---|---|---|---|
| | | | | Current | Previous year FY 21 | | |
| 1 | Revenue receipts | 1,72,266 | 1,48,153 | 86.0% | 66.2% | 1,19,090 | 24.4% |
| | (a) Tax revenue (i+ii+iii+iv+v+vi+vii) | 1,35,767 | 1,16,976 | 86.2% | 64.5% | 90,637 | 29.1% |
| (i) | SGST/CGST/IGST | 53,790 | 47,194 | 87.7% | 62.5% | 35,002 | 34.8% |
| (ii) | Stamps and registration | 12,655 | 10,796 | 85.3% | 61.8% | 7,816 | 38.1% |
| (iii) | Land revenue | 271 | 144 | 53.0% | 60.2% | 148 | -2.7% |
| (iv) | Sales tax | 16,791 | 16,454 | 98.0% | 70.4% | 12,509 | 31.5% |
| (v) | State Excise Duties | 24,580 | 21,549 | 87.7% | 83.5% | 18,955 | 13.7% |
| (vi) | State's share of Union Taxes | 16,430 | 13,167 | 80.1% | 50.3% | 10,034 | 31.2% |
| (vii) | Other taxes and duties | 11,249 | 7,670 | 68.2% | 54.7% | 6,171 | 24.3% |
| | (b) Non-tax revenues | 8,253 | 8,732 | 105.8% | 70.7% | 5,493 | 59.0% |
| | (c) Grants-in-aid and Contribution | 28,245 | 22,443 | 79.5% | 72.7% | 22,959 | -2.2% |
| 2 | Capital Receipts | 58,875 | 19,187 | 32.6% | 65.6% | 30,230 | -36.5% |
| 3 | Total Receipts | 2,31,141 | 1,67,340 | 72.4% | 66.1% | 1,49,516 | 11.9% |

*Source: Comptroller and Auditor General of India*

Chapter 4 on "Fiscal management during the pandemic" details the stress on state finances and the prudent management of finances which enabled Karnataka to manage the impact of the pandemic well. Over the last several years, Karnataka has maintained the fiscal deficit within 3% of GSDP though it was higher during the pandemic. Compared to many other states the revenue deficit and fiscal deficit has been lower. The state needs to improve the efficiency of public expenditure. Some studies indicate that subsidies in the state is higher than other comparable states.

Chapter 22 on "Asset Monetisation- Fuelling the future growth" seeks to answer a big challenge for all state governments—that of resource mobilisation to meet developmental needs. All governments have invested heavily in asset creation and PSUs. The question now is can these assets be monetised and the proceeds used for development. The central government has embarked on a National Monetisation Pipeline with about INR

6 lakh crore worth of assets identified. Karnataka too needs a similar program for asset monetisation and this chapter endeavours to create a framework for the same.

In conclusion, Karnataka has robust revenue and tax profile and is a fiscally well-managed state. It will certainly have adequate resources to invest in human capital and growth to increase the income of all its citizens and create adequate jobs.

## 1.8 Districts and Urbanisation

While Karnataka is undoubtedly doing well-Top 5 state economy with the highest per-capita GSDP, high services component and strong foundation for formal employment generation, the distribution of per-capita income varies widely across the state. Economic growth in Karnataka is uneven across the state, and centred largely around Bengaluru city.

**Table 1.19: Per-capita GDDP of Karnataka's districts in FY 20**

| Per-capita Gross District Domestic Product (INR) | | | | | |
|---|---|---|---|---|---|
| **Poorest Districts** | | **Middle Districts** | | **Richest Districts** | |
| **District** | **Per-capita GDDP** | **District** | **Per-capita GDDP** | **District** | **Per-capita GDDP** |
| Kalaburagi | 1,16,088 | Chickballapur | 1,51,275 | Mandya | 2,03,364 |
| Koppal | 1,26,766 | Gadag | 1,54,901 | Tumakuru | 2,08,555 |
| Bidar | 1,27,306 | Kolar | 1,63,207 | Kodagu | 2,14,024 |
| Yadagiri | 1,29,006 | Chamarajanagar | 1,69,553 | Ramnagara | 2,19,336 |
| Vijayapura | 1,31,750 | Mysuru | 1,74,396 | Bengaluru Rural | 2,29,663 |
| Haveri | 1,32,178 | Uttara Kannada | 1,86,067 | Shivamogga | 2,40,674 |
| Raichur | 1,33,197 | Hassan | 1,92,656 | Chikkamagaluru | 3,15,373 |
| Belagavi | 1,33,314 | Bagalkote | 1,93,804 | Udupi | 3,26,175 |
| Davangere | 1,45,107 | Ballari | 1,97,022 | Dakshina Kannada | 4,08,496 |
| Chitradurga | 1,49,929 | Dharwad | 1,97,418 | Bengaluru Urban | 5,72,786 |
| Pop-weighted avg. | 1,32,189 | Pop-weighted avg. | 1,80,876 | Pop-weighted avg. | 3,94,858<br>(2,65,854 w/o BLR Urban) |
| **Karnataka State Per-capita GSDP** | | | | | **2,44,381** |

*Source: Directorate of Economics and Statistics, GoK*

Latest Gross District Domestic Product (GDDP) data is available for 2019-20 only. Per-capita GDDP varies widely between Karnataka's 30 districts. Table 1.19 shows the 30 districts categorized according to the ten poorest, ten middle-income and ten richest by per-capita GDDP. Bengaluru Urban is by far the richest district in the state, averaging a per-capita GDDP of INR 5,72,786—2.3 times that of Karnataka's per-capita GDP INR

2,44,381 in 2019-20. This is a result of the IT industry and other high value-add industries located in the city.

The ten poorest districts range from Kalaburgi with a per-capita GDDP of INR 1,16,088 to Chitradurga at INR 1,49,929. The population-weighted average of these ten districts is INR 1,32,189. All ten are located in North Karnataka, and are characterized by larger populations compared to the south and inadequate high value-add opportunities like industries or technology-based sectors. Human capital development is also rather low here. Agriculture is the mainstay in these districts, without much room for growth. This calls for a revised strategy for regional balancing by following the Aspirational Districts model pioneered by NITI Aayog.

The middle-income set of ten districts range from Chickballapur at INR 1,51,275 to Dharwad at INR 1,97,418. The population-weighted average of this set is INR 1,80,876—1.4x that of the poorer set with a difference of INR 48,687 per-capita. The richest ten districts range from Mandya at INR 2,03,364 to Bengaluru Urban at INR 5,72,786—with stark variance. The population-weighted average is INR 3,94,858—INR 1,50,476 over the state average. Excluding Bengaluru Urban brings the population-weighted average down to INR 2,65,854—merely INR 21,473 over the average. Clearly, Bengaluru Urban makes a significant portion – 37% in FY 20 - of the state economy.

**Table 1.20: Aggregated per-capita GDDP of Karnataka's districts in FY 20**

| District / Division | Gross District Domestic Product (GDDP) (INR lakh) | Per-capita GDDP (INR) | Aggregate population |
|---|---|---|---|
| North Karnataka | 4,19,91,624 | 1,49,221 | 2,81,40,614 |
| South Karnataka | 11,95,54,029 | 3,14,919 | 3,79,63,386 |
| Bangalore Urban District | 5,96,29,019 | 5,72,786 | 1,04,10,343 |
| S KA (Excl. BLR Urban Dist) | 5,99,25,010 | 2,17,490 | 2,75,53,043 |
| **State** | **16,15,45,653** | **2,44,381** | **6,61,04,000** |
| **State (Excl. BLR Urban Dist)** | **10,19,16,634** | **1,82,995** | **5,56,93,657** |
| Bangalore Division (Incl. BLR Urban Dist) | 8,57,83,989 | 3,52,009 | 2,43,69,802 |
| Bangalore Urban District | 5,96,29,019 | 5,72,786 | 1,04,10,343 |
| Bangalore Division (Excl. BLR Urban Dist) | 2,61,54,970 | 1,87,364 | 1,39,59,459 |

*Source: Directorate of Economics and Statistics, GoK*

A closer look at aggregate division data in Table 1.20 shows a stark difference between North and South Karnataka. North Karnataka consists of 13 districts in the Belgaum and Kalaburgi divisions with an aggregate population of 2.81 crore and combined GDDP of INR 4.2 lakh crore. This amounts to a per-capita GDDP of INR 1.49 lakh. South Karnataka's per-capita figure is double that at INR 3.15 lakh—this includes the Bengaluru Urban district.

South Karnataka has an aggregate population of 3.8 crore and combined GDDP of INR 11.95 lakh crore. On excluding Bengaluru Urban, combined GDDP of South Karnataka falls to INR 5.99 lakh crore and per-capita GDDP falls to INR 2.17 lakh, which is merely INR 68,000 more than the North Karnataka average.

A similar analysis state-wide also demonstrates a stark difference with and without the Bengaluru Urban district. In 2019-20, Karnataka GSDP was INR 16.15 lakh crore with per-capita at INR 2.44 lakh. Without Bengaluru Urban district, however, those figures drop to INR 10.2 lakh crore and INR 1.83 lakh, respectively. The Bengaluru revenue division, too, similarly drops from an aggregate GDDP of INR 8.58 lakh crore and per-capita of INR 3.52 lakh to INR 2.61 lakh crore and INR 1.87 lakh excluding the Bengaluru Urban district.

These datasets demonstrate two significant points that must be addressed to unlock higher growth in Karnataka. One, the rest of the state excluding Bengaluru, particularly the ten poorest districts in North Karnataka, must be rapidly developed with adequate high-wage employment opportunities in scalable industrial enterprises so the per-capita output and low GDDPs grow faster than the state average. Even other areas in South Karnataka, excluding Bengaluru, need development opportunities that enable them to grow faster and contribute more to the state economy.

Data shows there is a need for a concerted sustainable urbanisation drive across Karnataka. Urbanisation is critical for improving the quality of life for all citizens across the state. Urbanisation concentrates human activity, which leads to specialisation which, in turn, increases productivity and thereby income. The world, on average, is 55%+ urban, with China at nearly 60% today. India's data on urbanisation is still based on the 2011 Census while the economy has multiplied by at least 3 times in the ensuing decade—calling for an immediate update. Karnataka needs up-to-date data on its cities, towns and villages, that can be operationalized into a sustainable urban policy to improve the quality of life and increase income of its citizens.

Two, Bengaluru is the jewel in the crown of Karnataka making up a significant component of GSDP, paying the majority of the taxes, and with the highest per-capita income amongst India's cities. Excluding Bengaluru's contribution, the state's per-capita income drops closer to the national average. The city is India's IT capital, biotechnology capital, science capital, avionics capital, space capital and, in essence, the Hi-Tech capital of India.

It is imperative to develop the city and allocate the necessary resources for Bengaluru to achieve its potential as a global hi-tech city. Increasing prosperity has led to severe infrastructure challenges with a lack of an appropriate governance mechanism to meet the citizens' needs. Chapter 17 on "Development of Bengaluru Metropolitan Region" discusses measures to make Bengaluru's future more vibrant and improve the quality of life for all her citizens. One central strategy to develop the whole state economy can no longer work; each region needs a differentiated and focused agenda based on its population's needs.

Chapter 16 on "Sustainable Urbanisation" underscores the pivotal point that the very definition of "urban" must be revisited based on people engaged in economic activities, as this has a substantial impact on socio-economic policymaking. The governance mechanism for urban areas must be revisited to ensure that there is greater devolution of power and citizens are better served as urban areas are the main engines of growth

today. They need better mobility mechanisms to increase productivity and quality of life. This calls for a reorientation of policies to make urban areas walking cities and advance the framework around important issues like waste management, pollution, cleanliness, and other major challenges.

### 1.9 Demographics

A welfare state exists for the welfare of its citizens. All policies of the states are turned towards increasing the quality of life of the state's citizens. It is important to study the demographics of every state and the country to understand how it is changing and to respond to the needs of all citizens and social groups.

The recent National Family and Health Survey (NFHS-5) for 2019-21 shows tremendous improvement in many indicators across the country, as shown in Table 1.21. Significantly, for the first time in our history, India has 1,020 women per 1,000 men, and Karnataka has 1,034 women per 1,000 men. The sex ratio at birth for children in India has gone up to 929 from 919 in 2015-16. In the same period in Karnataka, sex ratio at birth has increased from 910 to 978, a phenomenal increase. A study of the indicators given below is revealing.

**Table 1.21: Various demographic indicators for India and Karnataka.**

| Demographic and socio-economic indicator | NFHS – 5 (2019-21) | | NFHS-4 (2015-16) | |
|---|---|---|---|---|
| | India | Karnataka | India | Karnataka |
| Population below age 15 years (%) | 26.5 | 22.9 | 28.6 | 24.4 |
| Sex ratio of total population (females per 1,000 males) | 1,020 | 1,034 | 991 | 979 |
| Sex ratio at birth for children born in the last 5 years (females per 1,000 males) | 929 | 978 | 919 | 910 |
| Population living in households with electricity (%) | 96.8 | 99.1 | 88 | 98.3 |
| Population living in households with an improved drinking-water source (%) | 95.9 | 95.3 | 94.4 | 95.3 |
| Population living in households that use an improved sanitation facility (%) | 70.2 | 74.8 | 48.5 | 57.8 |
| Households using clean fuel for cooking (%) | 58.6 | 79.7 | 43.6 | 54.7 |
| Households with any usual member covered under a health insurance/financing scheme (%) | 41 | 28.1 | 28.7 | 28.1 |
| Women who are literate (%) | 71.5 | 73.4 | - | N/A |
| Men who are literate (%) | 84.4 | 85.2 | - | N/A |
| Women who have ever used the internet (%) | 33.3 | 35 | - | N/A |
| Men who have ever used the internet (%) | 57.1 | 62.4 | - | |
| Institutional births (%) | 88.6 | 97 | 78.9 | 94 |

*Source: National Family Health Survey*

| Table 1.21: Various demographic indicators for India and Karnataka. | | | | |
|---|---|---|---|---|
| Demographic and socio-economic indicator | NFHS – 5 (2019-21) | | NFHS-4 (2015-16) | |
| | India | Karnataka | India | Karnataka |
| Children under 5 years who are stunted (%) | 35.5 | 35.4 | 38.4 | 36.2 |
| Children under 5 years who are wasted (%) | 19.3 | 19.5 | 21 | 26 |
| Children under 5 years, severely wasted (%) | 7.7 | 8.4 | 7.5 | 10.5 |
| Children under 5 years who are underweight (weight-for-age)(%) | 32.1 | 32.9 | 35.8 | 35.2 |
| Children under 5 years who are overweight (weight-for-height) (%) | 3.4 | 3.2 | 2.1 | 2.6 |
| Women who are overweight or obese(BMI>=25.0 kg/m2)(%) | 24 | 30.1 | 20.6 | 23.3 |
| Children age 6-59 months who are anaemic (<11.0 g/dl) (%) | 67.1 | 65.5 | 58.6 | 60.9 |
| Women having a bank or savings account (%) | 78.6 | 88.7 | 53 | 59.4 |
| Women having mobile phone used by themselves (%) | 54 | 61.8 | 45.9 | 47.1 |
| Infant mortality rate (per 1,000 live births) | 35.2 | 25.4 | 40.7 | 26.9 |
| Under-5 mortality (per 1,000 live births) | 41.9 | 29.5 | 49.7 | 31.5 |
| Women aged 20-24 married before age 18 (%) | 23.3 | 21.3 | 26.8 | 21.4 |
| Total fertility rate (children/woman) | 2.0 | 1.7 | 2.2 | 1.8 |
| *Source: National Family Health Survey* | | | | |

Karnataka's demographics is clearly changing rapidly and must be considered in any analysis aimed at socio-economic growth. Crucially, India's total fertility rate (TFR) has plummeted over three decades as shown in Table 1.22, and the Indian population is officially below replacement. Global consensus has placed the replacement rate for emerging economies at 2.3 and for the developed world at 2.1. India's latest TFR according to the NFHS-5 is 2.0, coming under both replacement rates and officially signifying the country's high population growth trajectory is over and the population will peak soon. In a couple of decades, the number of senior citizens will increase multifold and social security will be essential. India's famed youth bulge, the demographic dividend, is passing through the workforce now, and the country will soon have a large ageing population dependent on a gradually shrinking workforce. It is imperative to develop a highly skilled and productive workforce to keep the economic momentum going when the population downturn happens.

Karnataka's TFR has fallen faster than the India-average. When India's TFR was 3.4 in 1992-93, Karnataka's was 2.85. Thirteen years later in 2005-06, the state's TFR had dipped below replacement at 2.1. TFR has now dipped to 1.8 in 2015-16 and 1.7 in 2019-21, signifying that the fertility drop hasn't levelled off yet.

| Table 1.22: Total Fertility Rates of India and Karnataka from 1992-93 to 2019-21 | | |
|---|---|---|
| **NFHS/Year** | **India's TFR** | **Karnataka's TFR** |
| NFHS -1 (1992-93) | 3.39 | 2.85 |
| NFHS -2 (1998-99) | 2.85 | 2.13 |
| NFHS-3 (2005-06) | 2.7 | 2.1 |
| NFHS-4 (2015-16) | 2.2 | 1.8 |
| NFHS-5 (2019-21) | 2.0 | 1.7 |
| *Source: National Family Health Survey* | | |

The steep fertility decline is consistent with other datasets. Table 1.23 shows the actual births and actual deaths, with estimates, for both India and Karnataka from the Civil Registration System. Across the country, the percentage of registration for both births and deaths are increasing. Data shows that the estimated births, gross of infant mortality deaths, is stagnating for the last 5 years and possibly declining. Total number of deaths in India is increasing.

| Table 1.23: Number of births and deaths in Karnataka and India from 2015 to 2020 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| **Year** | **India (in lakhs)** | | | | **Karnataka (in lakhs)** | | | |
| | **Actual Births** | **Estimated Births** | **Actual Deaths** | **Estimated Deaths** | **Actual Births** | **Estimated Births** | **Actual Deaths** | **Estimated Deaths** |
| 2015 | 231.4 | 261.9 | 62.7 | 81.8 | 10.5 | 11.1 | 3.9 | 4.1 |
| 2016 | 222.0 | 259.9 | 63.5 | 81.5 | 11.1 | 11.0 | 4.2 | 4.2 |
| 2017 | 221.0 | 260.3 | 64.6 | 81.2 | 11.0 | 11.0 | 4.8 | 4.1 |
| 2018 | 232.7 | 264.9 | 69.5 | 82.1 | 10.3 | 10.9 | 4.8 | 4.0 |
| 2019 | 248.2 | 267.8 | 76.4 | 83.0 | 10.5 | 11.3 | 5.1 | 4.2 |
| 2020 | Not Published | | | | 9.9 | 9.7 | 5.5 | 5.1 |
| *Source: Civil Registration System* | | | | | | | | |

In Karnataka, total number of births is reducing in-line with fertility having dropped to 1.7 in 2019-21, and possibly 1.5 by 2030. It is very clear that the number of deaths is increasing quite dramatically. If the estimated births decrease by 1% every year—in 2030, number of births could be 10.2 lakhs. However, the death rate is almost 7% CAGR, which means the number of deaths in 2030 will be close to 12 lakhs overtaking the number of births, leading to a population decline. A detailed analysis is required to create a demographic profile of the state till 2030, so that appropriate targeted policies can be evaluated.

Similarly, a detailed analysis of school enrollment data in Karnataka shows clearly that the average enrollment across classes I, II and III over the last ten years has been stagnating and possibly trending down as seen in Table 1.24. In FY 11, average enrollment across the three classes was 10.8 lakh which rose to a decadal peak of 11.06 lakh in FY 16 and then fell to 10.85 lakh in FY 20—amounting to a 9-year CAGR of merely 0.05%. At the same time, average enrollment across classes IX and X has increased from 8.23 lakh in FY 11 to 9.18 lakh in FY 20—at a CAGR of 1.2%. There is near universal enrollment in Classes I, II and III today; almost all children enter school and the number of students completing Class X

has indeed increased over time. Indeed, the average enrollment figures across Classes I, II and III in Table 1.24 compare closely with the number of births in Table 1.23, which means school enrollment will trend down too.

**Table 1.24: Average school enrollment across Classes I, II and III, and Classes IX and X in Karnataka**

| Karnataka school enrollment data | | |
|---|---|---|
| **Year** | **Average of Classes I, II and III** | **Average of Classes IX and X** |
| 2010-11 | 10,80,363 | 8,23,676 |
| 2011-12 | 11,04,971 | 8,59,967 |
| 2012-13 | 10,95,706 | 8,33,298 |
| 2013-14 | 10,96,707 | 8,42,668 |
| 2014-15 | 11,03,717 | 8,83,495 |
| 2015-16 | 11,06,406 | 8,87,132 |
| 2016-17 | 11,03,956 | 9,00,125 |
| 2017-18 | 10,88,601 | 8,79,840 |
| 2018-19 | 11,02,436 | 9,00,133 |
| 2019-20 | 10,85,550 | 9,18,446 |

*Source: Department of Public Instruction, GoK*

Students entering Class I in FY 11 entered Class X in FY 20; here, the data shows us average retention of students through Class X is 78.6% in Karnataka. The state must ensure that all children get an education till Class XII. In India, the average retention of students through Class X is lower, at 60.4%. The new National Education Policy giving thrust to vocalization in education must be given a special budgetary support.

**Table 1.25: Average school enrollment across Classes I, II and III, and Classes IX & X in India**

| India school data | | |
|---|---|---|
| **Year** | **Average of Classes I, II and III** | **Average of Classes IX and X** |
| 2010-11 | 2,84,42,418 | 1,58,89,514 |
| 2011-12 | 2,93,46,225 | 1,70,26,291 |
| 2012-13 | 2,77,31,218 | 1,73,20,052 |
| 2013-14 | 2,69,41,111 | 1,86,48,342 |
| 2014-15 | 2,64,01,731 | 1,91,50,800 |
| 2015-16 | 2,61,41,094 | 1,95,72,526 |
| 2016-17 | 2,51,28,334 | 1,94,11,927 |
| 2017-18 | 2,48,84,230 | 1,92,40,012 |
| 2018-19 | 2,43,05,624 | 1,91,67,286 |
| 2019-20 | 2,46,66,691 | 1,92,32,217 |

*Source: Department of Public Instruction, GoK*

A similar analysis of India's school enrolment is useful to mark Karnataka's progress against, as the demographic profile is quite different. Table 1.25 shows average enrolment across classes I, II and III over the last ten years is definitely trending downwards. In FY 11, average enrollment across the three classes was 2.84 crore which rose to a decadal peak of 2.93 crore in FY 12 and then decreased rapidly to 2.47 crore in FY 20—amounting to a 9-year CAGR of -1.6%. At the same time, average enrollment across classes IX and X has increased from 1.59 crore in FY 11 to 1.92 crore in FY 20—at a CAGR of 2.1%. Across India as well, there is near universal enrollment in Classes I, II and III today; almost all children enter school and the number of students completing Class X is increasing over time. Here too, the average enrollment figures across Classes I, II and III in Table 1.25 compare closely with the number of births in Table 1.23 but is rapidly trending down; a worrisome trend which must be worked out.

**Table 1.26: Percentage of students enrolled in government and private schools in Karnataka**

| | | | | | | Total Enrolment | |
|---|---|---|---|---|---|---|---|
| **YEAR** | **SCHOOL TYPE** | **Class-I** | **Class-II** | **Class-III** | **Class-IV** | **Class-V** | **Class-VI** |
| 2012-13 | | | | | | | |
| | % GOVT | 51.4% | 52.7% | 54.2% | 55.2% | 57.7% | 59.1% |
| | % PRIVATE | 48.6% | 47.3% | 45.8% | 44.8% | 42.3% | 40.9% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| 2019-20 | | | | | | | |
| | % GOVT | 40.2% | 41.3% | 41.9% | 45.5% | 47.3% | 49.7% |
| | % PRIVATE | 59.8% | 58.7% | 58.1% | 54.5% | 52.7% | 50.3% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| YEAR | SCHOOL TYPE | Class-VII | Class-VIII | Class-IX | Class-X | Total Enrolment | |
| | | | | | | In lakh | % |
| 2012-13 | | | | | | | |
| | % GOVT | 59.4% | 47.0% | 39.5% | 38.9% | 52.36 | 52.0% |
| | % PRIVATE | 40.6% | 53.0% | 60.5% | 61.1% | 48.26 | 48.0% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 100.63 | 100.0% |
| 2019-20 | | | | | | | |
| | % GOVT | 51.4% | 42.1% | 36.7% | 35.4% | 45.13 | 43.4% |
| | % PRIVATE | 48.6% | 57.9% | 63.3% | 64.6% | 58.96 | 56.6% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 104.09 | 100.0% |

*Source: Department of Public Instruction, GoK*

Another useful demographic shift to track is the percentage of children enrolled in private schools versus in government schools. Government spends an enormous quantum funding the public education system and must focus this spending to ensure the children enrolled have access to quality education. Table 1.26 shows the percentage of children enrolled in government and private schools in Karnataka in every class from I to X in FY 13 and in FY 20.

It is evident that the percentage of children in government schools has dropped from FY 13 to FY 20 in every single Class. In Class I, it has dropped from 51.4% to 40.2%; a dramatic 10-point drop. Similar steep declines are seen in Classes II (52.7% to 41.3%), III (54.2% to 41.9%), IV (55.2% to 45.5%), V (57.7% to 47.3%) and VI (59.1% to 49.7%). Classes VII through X are not as steep, but downward nevertheless. Total enrolment across all classes was 52.4 lakh in FY 13, constituting 52%, which has decreased to 45.1 lakh or 43.4% in FY 20. Table 1.27 shows this is a pan-India phenomenon.

**Table 1.27: Percentage of students enrolled in government and private schools in India**

| YEAR | SCHOOL TYPE | Class-I | Class-II | Class-III | Class-IV | Class-V | Class-VI |
|---|---|---|---|---|---|---|---|
| 2012-13 | % GOVT | 62.8% | 64.2% | 65.1% | 65.4% | 63.4% | 61.1% |
| | % PRIVATE | 37.2% | 35.8% | 34.9% | 34.6% | 36.6% | 38.9% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| 2019-20 | % GOVT | 51.6% | 54.0% | 54.7% | 55.9% | 55.8% | 53.1% |
| | % PRIVATE | 48.4% | 46.0% | 45.3% | 44.1% | 44.2% | 46.9% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% | 100.0% |
| YEAR | SCHOOL TYPE | Class-VII | Class-VIII | Class-IX | Class-X | Total Enrolment | |
| | | | | | | In crore | % |
| 2012-13 | % GOVT | 60.2% | 56.3% | 48.3% | 45.0% | 14.11 | 60.2% |
| | % PRIVATE | 39.8% | 43.7% | 51.7% | 55.0% | 9.32 | 39.8% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 23.43 | 100.0% |
| 2019-20 | % GOVT | 53.6% | 52.4% | 45.1% | 41.7% | 11.73 | 52.1% |
| | % PRIVATE | 46.4% | 47.6% | 54.9% | 58.3% | 10.77 | 47.9% |
| | TOTAL | 100.0% | 100.0% | 100.0% | 100.0% | 22.50 | 100.0% |

*Source: Department of Public Instruction, GoK*

In India too, the percentage of children in government schools has dropped from FY 13 to FY 20 in every single Class. In Class I, it has dropped from 62.8% to 51.6%; a steep 11-point decline in seven years. Similar steep declines are seen in Classes II (64.2% to 54%), III (65.1% to 54.7%) and IV (65.4% to 55.9%). Decline in Classes V through X are within 10-points, but all trending definitively downward. Total enrolment across all classes was 14.1 crore in FY 13, constituting 60.2%, which has decreased to 11.73 crore or 52.1% in FY 20. Across India, and Karnataka, citizens overwhelmingly prefer private schools. This trend is

ominous and calls for an overhaul of the infrastructure and human capital spend in the education sphere. For example, in FY 20, only 40% of all Class I students in Karnataka were enrolled in government schools against an extensive number of teachers employed by the government. Karnataka's analysis will show that an enormous sum of expenditure is spent on teachers' salaries and is increasing every year. With the drastic downward trend of government school enrollment, the government must re-evaluate teacher training and other aspects. It is also obvious the quality must improve in government schools to be on par with private schools.

Returning to the population downturn, over the last decade, the 18–23-year-old population in Karnataka has been decreasing at the rate of 1% YoY. Data from AISHE in Table 1.28 shows in FY 13, Karnataka's 18–23-year-old population was 73.3 lakhs, reducing at the rate of 1%p.y. to 68.4 lakhs in FY 20. In the same period, India's 18–23-year-old population barely grew at 0.2% YoY from 14.06 crore to 14.23 crore. Except for a few populous states in the north and east like Bihar and Uttar Pradesh, most Indian states are ageing rapidly. States in the south, particularly, are facing a steep decline in their youth populations.

**Table 1.28: Trend of 18-23-year age group population in India and Karnataka**

| Years | India | Karnataka |
|---|---|---|
| 2012-13 | 14,05,58,699 | 73,31,743 |
| 2014-15 | 14,10,45,558 | 71,91,845 |
| 2016-17 | 14,15,37,252 | 70,52,447 |
| 2017-18 | 14,18,29,528 | 69,82,633 |
| 2018-19 | 14,20,78,501 | 69,12,759 |
| 2019-20 | 14,23,28,704 | 68,42,880 |
| 7-year CAGR | 0.2% | -1.0% |

*Source: All India Survey on Higher Education*

Subsequently, the percentage of the population above 60 years is rising. Table 1.29 shows in 2001, 7.4% of India's population was 60+, growing to 8.6% in 2011. It is projected that 10.1% of the population was 60+ in 2021 which might increase to 13.1% in the next decade based on the decline in the population growth rate and fertility. Karnataka's 60+ population composition remained 7.7% from 2001-2011 but is projected to have grown to 11.5% in 2021 and to 15% in 2031 based on the steeper decline in fertility.

**Table 1.29: Percentage of population above 60 years in India and Karnataka**

| Year | Number (in thousands) of persons aged 60 & above (% of population) | | | |
|---|---|---|---|---|
| | 2001 | 2011 | 2021 | 2031 |
| | | | (Projections) | |
| India | 76,622 (7.4%) | 1,03,849 (8.6%) | 1,37,897 (10.1%) | 1,93,787 (13.1%) |
| Karnataka | 4,062 (7.7%) | 5,791 (7.7%) | 7,658 (11.5%) | 10,594 (15%) |

*Source: Elderly in India 2021, Ministry of Statistics and Programme Implementation*

Education has a significant role to play in the stabilization of a country's population. Trendlines around the world have demonstrated that as the women become educated, they have fewer children than their counterparts with lesser education. In India, too, fertility of women steeply drops as the education level rises. Table 1.30 shows that while illiterate women tend to have 3 children, literate women have 2.1, on average. Among them, women with school education may have 1.9-2.5 children while women with pre-university education, 1.8, and women with a graduate degree and above, 1.7.

**Table 1.30: Correlation of Total Fertility Rates with women's education levels**

| Educational level of women | Illiterate | Literate | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Below primary | Primary | Middle | Class X | Class XII | Graduate and above | Total literate |
| India | 3.0 | 2.9 | 2.5 | 2.2 | 1.9 | 1.8 | 1.7 | 2.1 |
| Karnataka | 1.8 | 2.3 | 2.1 | 2.1 | 1.7 | 1.5 | 1.3 | 1.7 |

*Source: Sample Registration System Statistical Report 2018*

In keeping with Karnataka's low overall TFR, illiterate women in the state may have 1.8 babies while literate women have 1.7, on average. A school educated woman may have 1.7-2.1 children, while women with pre-university education 1.5, and women with a graduate degree and above, a mere 1.3.

Furthermore, a country can truly rise when all its communities are economically empowered. Higher education is one of the most powerful drivers towards economic empowerment. It unlocks new avenues for aspiring citizens to develop their human capital, access better employment and financial opportunities, and improve quality of life. Today, socio-economic growth is driven by the knowledge economy and the biggest benefactors of this new economy are people and countries that are focusing on human capital development.

The recently released AISHE 2019-20 report indicates tremendous change across India among all communities except for those designated 'general merit', as seen in Table 1.31. The 7-year compound annual growth rates (CAGR) of the communities are 5.7% (SC), 7.3% (ST), 6.1% (OBC), 7.3% (Muslims), and 6.7% (other minority communities), between 2012-13 and 2019-20. In the same period, enrollment of general category dropped at a CAGR of negative 0.3%. GoI's institution of the 10% EWS category may be a response to this decline.

Enrollment proportions for the SC, ST and OBC communities in 2019-20 are close to their population composition—14.9% enrollment against 16.6% of the population for SCs, 5.5% enrollment against 8.6% of the population for STs, and 36.3% enrollment against 40.9% of the population for OBCs. Towards the objectives of inclusive enrollment and coverage, affirmative action has indeed yielded results.

Minorities, however, have not demonstrated the same progress. Minorities constitute 20.2% of India's population, but only 7.5% in HE enrollment. AISHE only tracks Muslims separately, who represent 5.2% of HE enrollment against 14.2% of the population. All other designated minority religions are jointly categorised—Christians, Sikhs, Jains, Buddhists, and others—and are collectively at 2.3% of total enrollment against 6% of

the population. The upcoming 2021 census will inform us of the latest composition. The Muslim community requires special care to ensure they have access to higher education opportunities; the 7-year CAGRs are the most promising in among the Muslim community, at 7.7%, signifying their aspirations.

**Table 1.31: Higher education enrolment of various social groups in India against the population**

| Social Group | AISHE 2019-20 | | Population % | AISHE 2012-13 | | 7-yr CAGR |
|---|---|---|---|---|---|---|
| | Enrollment | % of total | Census 2011 | Enrollment | % of total | FY 13-20 |
| Women | 1,88,92,612 | 48.64% | 48.46% | 1,35,35,123 | 44.89% | 4.88% |
| Men | 1,96,43,747 | 51.36% | 51.54% | 1,66,17,294 | 55.11% | 2.42% |
| SC | 56,57,672 | 14.89% | 16.60% | 38,47,942 | 12.76% | 5.66% |
| ST | 21,56,109 | 5.53% | 8.60% | 13,20,361 | 4.38% | 7.26% |
| OBC | 1,42,49,114 | 36.34% | 40.90%* | 94,16,299 | 31.23% | 6.10% |
| Muslim | 21,00,860 | 5.24% | 14.20% | 12,51,656 | 4.15% | 7.68% |
| Other Minorities | 8,87,750 | 2.32% | 6.00% | 5,64,227 | 1.87% | 6.69% |
| General Merit | 1,34,84,854 | 35.68% | 13.60% | 1,37,51,932 | 45.61% | -0.28% |
| | | | | | | |
| Total | 3,85,36,359 | 100.00% | 100.00% | 3,01,52,417 | 100.00% | 3.57% |

*Source: All India Survey on Higher Education, Census 2011, NSSO*

A similar analysis of Karnataka's social groups in HE is shown in Table 1.32. The 7-year compound annual growth rates (CAGR) of the communities are 3.8% (SC), 5% (ST), 5% (OBC), 7.8% (Muslims), and 6.7% (other minority communities), between 2012-13 and 2019-20. In the same period, enrollment of general category dropped at a CAGR of negative 4.6%, steeper than India's. Special programs for economically weaker sections of non-reserved categories are needed as undertaken by the central government. Special scholarships for this section will ensure even those without means can access quality education.

Enrollment proportions for the SC, ST and OBC communities in 2019-20 are, again, close to their population composition—13% enrollment against 17% of the population for SCs, 5% enrollment against 7% of the population for STs, and 49.5% enrollment against 55.5% of the population for OBCs. Towards the objectives of inclusive enrollment and coverage, affirmative action has indeed yielded results in Karnataka as well.

Minorities constitute 16% of Karnataka's population, versus 10.5% in HE enrollment. AISHE only tracks Muslims separately, who represent 6.3% of HE enrollment against 13% of the population. All other designated minority religions are jointly categorised—Christians, Sikhs, Jains, Buddhists, and others—and are collectively at 4% of total enrollment against 3% of the population. Here, too, the 7-year CAGRs are the most promising in among the Muslim community, at 7.8%. A large-scale scholarship program is required for the Muslim community to meet their aspirations for greater enrolment in higher education as their

enrolment is the least among all groups compared to their population but growth is the fastest.

**Table 1.32: Higher education enrolment of various social groups in Karnataka against the population**

| Social Group | AISHE 2019-20 | | Population % | AISHE 2012-13 | | 7 yr CAGR |
|---|---|---|---|---|---|---|
| | Enrollment | % of total | Census 2011 | Enrollment | % of total | FY 13-20 |
| Women | 10,99,009 | 50.04% | 49.31% | 8,73,555 | 46.98% | 3.33% |
| Men | 10,88,883 | 49.96% | 50.69% | 9,86,024 | 53.02% | 1.43% |
| SC | 2,90,162 | 13.14% | 17.15% | 2,23,384 | 12.01% | 3.81% |
| ST | 1,05,761 | 4.78% | 6.95% | 75,000 | 4.03% | 5.03% |
| OBC | 11,00,154 | 49.59% | 55.50%* | 7,80,324 | 41.96% | 5.03% |
| Muslim | 1,44,511 | 6.31% | 12.92% | 85,675 | 4.61% | 7.75% |
| Other Minorities | 87,770 | 4.10% | 3.09% | 55,639 | 2.99% | 6.73% |
| General Merit | 4,59,534 | 22.07% | 4.39% | 6,39,557 | 34.39% | -4.61% |
| All | 21,87,892 | 100.00% | 100.00% | 18,59,579 | 100.00% | 2.35% |

*Source: All India Survey on Higher Education, Census 2011, NSSO*

Women have overtaken men in Karnataka's higher education where they constitute 50.04% of enrolment compared to 49.96%. Their 7-year enrolment CAGR, is 3.3%, more than double that of men at 1.4%. Gross Enrolment Ratio of women is now 32.7, compared to 31.2 for men. These trends show a silent revolution over the last decade, where women are increasingly turning towards higher education with aspirations.

Chapter 15 on "Inequalities in Karnataka—Evidence led policy alternatives" provides an in-depth analysis of programs for women and children in order to bridge the gaps in their development. In FY 22, from April to December 2021, the government spent INR 8,929 crore on this, 52% higher than in FY 21. This spend plus earlier expenditures are yielding tangible results in this area. The NFHS-5 also shows significant improvement across the state. The analysis also includes a district-level breakdown to identify which are lagging and need accelerated development.

### 1.10 Sustainable Development Goals

The 2030 Agenda for Sustainable Development is a comprehensive framework launched by the United Nations and adopted by the member states in 2015. India is a prominent signatory and has integrated the framework into its socio-economic policymaking. It uses the Sustainable Development Goals (SDG) blueprint to track the progress at the national and state levels

| Table 1.33: Karnataka's Sustainable Development Goals matrix | | | |
|---|---|---|---|
| **Category (Score)** | **Sustainable Development Goals** | **Score** | **Rank among States** |
| Achiever (100) | SDG 7: Affordable and Clean Energy | 100 | 1 |
| Front Runner (65-99) | SDG 1: No Poverty | 68 | 10 |
| | SDG 3: Good Health and Well-being | 78 | 5 |
| | SDG 6: Clean Water and Sanitation | 85 | 11 |
| | SDG 8: Decent Work and Economic Growth | 66 | 6 |
| | SDG 10: Reduced Inequalities | 67 | 12 |
| | SDG 11: Sustainable Cities and Communities | 78 | 7 |
| | SDG 12: Responsible consumption and production | 89 | 3 |
| | SDG 15: Life on Land | 67 | 11 |
| | SDG 16: Peace, Justice and Strong Institutions | 76 | 7 |
| Performer (50-64) | SDG 2: Zero Hunger | 53 | 10 |
| | SDG 4: Quality Education | 64 | 6 |
| | SDG 5: Gender Equality | 57 | 6 |
| | SDG 9: Industry, Innovation and Infrastructure | 64 | 6 |
| | SDG 13: Climate action | 62 | 7 |
| | SDG 14: Life below water | 60 | NA |
| | All Goals- Karnataka | 72 | 3 |
| *Source: NITI Aayog* | | | |

NITI Aayog maintains a composite SDG India Index, developed in collaboration with the UN, which ranks the states across 115 indicators. Per the 2020-21 index, Karnataka ranks third with a score of 72 as shown in Table 1.33. Kerala is number one at 75, followed by Himachal Pradesh and Tamil Nadu, jointly at second with scores of 74. The state has a top score of 100 in SDG7 on affordable and clean energy. Karnataka claims a frontrunner position in SDGs 1, 3, 6, 8, 10, 11, 12, 15 and 16, with scores between 65-99. These are areas where the state continues to make commendable progress and can reach the achiever position (Score of 100) with focused agendas and investment. In SDGs 2, 4, 5, 9, 13 and 14, Karnataka has a performer position with scores between 50-64, showing the improvement areas for the state.

Chapter 6 on "Sustainable Development and Climate Change" tracks Karnataka's progress in sustainable development and climate change where the state has done commendable work. Karnataka has integrated the SDG framework into its policymaking, and plans to detail it further at the district level to track district-level goals. It has developed an exhaustive plan to realize its SDG targets. It has also set up a decision support system – AVALOKANA, to help achieve this target and map out the budget spending towards these targets.

### 1.11 Conclusion, Policy Outputs and Future Strategies

Karnataka is a unique state in the Union of India. It has supported amongst the highest per-capita incomes, it leads in many Sustainable Development Goal and Human Development indicators, it is a leading state in technology and innovation, and has held a robust financial position. The state must set a more ambitious vision now and aim for a USD 1 trillion GSDP by 2032. Its citizens must unite under focused strategies to meet this goal. This calls for a fresh perspective in planning, goal setting, strategic initiatives, and a very focused human development initiative to ensure higher job creation, increased incomes for its citizens, and the highest quality of life for all. The next decade presents a generational opportunity for our state, and it is one all our citizens will work together to achieve.

### Policy Outputs

From the study of Karnataka's demographics in the context of the macroeconomic data, the following actionable observations come to the fore

1. The number of children being born are declining year after year, with fertility down to 1.7 and still in a declining trend. With the increase in higher education enrolment, a rising number of women are bearing lesser children. The population will age faster than it is currently, and the percentage of 60+ population will rise rapidly.
2. Number of people dependent on agriculture is decreasing rapidly and the aspirations among the educated is to work in industry and services which require investment.
3. The industry sector has been a laggard in Karnataka with a lower growth rate compared to agriculture and services, and requires further investment.

Future strategies for economic growth must focus on:

1. 1. Improving the access of school education so every child gets an education till Class XII, and the quality so school-educated children can have the ability to get a higher education and aspire for high-wage jobs. This includes ensuring vocalisation in the secondary sector.
2. The GER in higher education must go up to 60% by 2030 as the increase in enrolment across all sections show the increasing aspirations of young students. With the decline in the 18-23 age group every year, both in absolute numbers and as a percentage of the population, there is a need for greater investment in higher education, improvement in quality, and greater spending on research and development to develop a highly skilled workforce that can maintain economic output when the population downturn comes.
3. Increasing development expenditure in industry and services sectors so that people are able to move from agriculture to industry and services which provide higher growth income and opportunities in the future. Formal job creation in EPF demonstrates very clearly that the formal job potential of Karnataka is very high.
4. Investment in agriculture must focus on getting farmers higher prices than in the status quo and developing segments where farmers can accrue higher value add. A significant driver here is to connect the farmer to the market so they can realize full value. Agri-tech platforms that directly connect the farmers to the markets can be

significant drivers and have validated this approach over the last decade. Krishikalpa and other Farmer Producer Organisations have leveraged technology to great use in deriving the maximum benefit for the farmers and are valuable role models to scale across the state.

5. A special program is required to ensure Karnataka's bottom 10-15 districts grow faster than the state with increased per-capita incomes. This requires focus because the variance between the poorest districts and richer districts is only increasing. NITI Aayog's Aspirational District Model is yielding results and is a valuable role model to replicate here in the state so every citizen in Karnataka can attain a decent standard of living.
6. A State Level Bankers Committee (SLBCs) is required to set higher credit allocation targets to the transport and trade sectors due to their low credit-to-GSDP ratio relative to other sectors.
7. State Government must encourage and incentivize banks to open branches in unbanked rural centers (URCs). Priority should be given for opening branches in districts with the lowest per capita income and GDDP.
8. Karnataka must roll out a gradual phasing out program of subsidies having negative implications on environment like fuel subsidies for fishing, chemical fertilizers, and others.
9. It is imperative to provide greater access to electricity to the industrial, aiming at higher productivity and efficiency at reduced prices as industrial consumption of Escoms power has been stagnant for the last many years due to higher cost.
10. Monetizing the underutilised and unutilised assets, land and buildings towards efficient use through public-private partnership
11. Strengthening of agricultural food value chain by incentivising agroprocessing, FPOs, SHGs, market linkages and post-harvest infrastructure
12. Developing a focused 10-year implementation framework and policies for attaining the SDGs, thereby driving socio-economic development.
13. Increase non-tax revenues by evaluating and increasing the various charges currently levied.
14. Increase investment in urban sector to increase employment, higher quality jobs and growth.
15. Create jobs and infrastructure in the tourism sector which is a high job multiplier and is a currently untapped growth driver.