KERALA ECONOMY

COURSE CODE: M23EC12DC

Postgraduate Programme in Economics

Discipline Core Course

Self Learning Material

SREENARAYANAGURU OPEN UNIVERSITY

The State University for Education, Training and Research in Blended Format, Kerala

SREENARAYANAGURU OPEN UNIVERSITY

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To increase access of potential learners of all categories to higher education, research and training, and ensure equity through delivery of high quality processes and outcomes fostering inclusive educational empowerment for social advancement.

Mission

To be benchmarked as a model for conservation and dissemination of knowledge and skill on blended and virtual mode in education, training and research for normal, continuing, and adult learners.

Pathway

Access and Quality define Equity.

Kerala Economy

Course Code: M23EC12DC

Semester - IV

Discipline Core Course
Postgraduate Programme in Economics
Self Learning Material
(With Model Question Paper Sets)

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OPEN UNIVERSITY

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The State University for Education, Training and Research in Blended Format, Kerala

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MESSAGE FROM VICE CHANCELLOR

Dear learner,

I extend my heartfelt greetings and profound enthusiasm as I warmly welcome you to Sreenarayanaguru Open University. Established in September 2020 as a state-led endeavour to promote higher education through open and distance learning modes, our institution was shaped by the guiding principle that access and quality are the cornerstones of equity. We have firmly resolved to uphold the highest standards of education, setting the benchmark and charting the course.

The courses offered by the Sreenarayanaguru Open University aim to strike a quality balance, ensuring students are equipped for both personal growth and professional excellence. The University embraces the widely acclaimed "blended format," a practical framework that harmoniously integrates Self-Learning Materials, Classroom Counseling, and Virtual modes, fostering a dynamic and enriching experience for both learners and instructors.

The University aims to offer you an engaging and thought-provoking educational journey. The postgraduate programme in Economics builds on the undergraduate programme by covering more advanced theories and practical applications. The course material aims to spark learners' interest by using real-life examples and combining academic content with empirical evidence, making it relevant and unique. The Self-Learning Material has been meticulously crafted, incorporating relevant examples to facilitate better comprehension.

Rest assured, the university's student support services will be at your disposal throughout your academic journey, readily available to address any concerns or grievances you may encounter. We encourage you to reach out to us freely regarding any matter about your academic programme. It is our sincere wish that you achieve the utmost success.

Regards,
Dr. Jagathy Raj V.P. 01-08-2025

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BLOCK 1

Structural Changes of Kerala Economy

UNIT 1
Growth Trends of Kerala Economy Since 1956

Learning Outcomes

After completing this unit, the learner will be able to:

- identify the major phases of economic growth in Kerala since 1956
- interpret trends in GSDP and per capita income
- examine sectoral shifts in Kerala's economy
- analyse inflation trends specific to Kerala

Background

To understand the development of Kerala's economy, it is important to look at how it has grown and changed since 1956, when the state was formed. Kerala's development path has been quite different from that of many other Indian states. Instead of focusing mainly on industries and private businesses, Kerala gave more importance to education, health care and land reforms. These decisions were influenced by strong political movements that believed in equality and welfare for all.

In the early years, Kerala faced many problems. Most people depended on agriculture for their livelihood. The income levels were low, poverty was widespread and there were not enough jobs or proper infrastructure. But over time, Kerala started to improve its social conditions, people became more educated, life expectancy increased and basic health services reached even remote areas.

After the economic reforms in 1991, Kerala began to grow faster in terms of income and production. The state's Gross State Domestic Product (GSDP), which shows the value of goods and services produced, started rising. People's income improved and poverty diminished. However, challenges like rising prices, high wages and uneven growth across different sectors still exist.

Learners will explore the major growth trends in Kerala's economy since 1956, gaining an understanding of how the state's economy has developed, the factors that have driven its progress, and the challenges it continues to face.

Keywords

Gross State Domestic Product, Per Capita Income, Liberalisation, Sectoral Growth, Inflation

Discussion

1.1.1 Kerala Economy

- Kerala pursued welfare driven, state led economic growth

Since its formation in 1956, Kerala's economic policies were mainly shaped by political parties that followed communist or socialist ideologies. These parties believed in state intervention in the market and focussed more on public sector development rather than encouraging the private sector. The government aimed to achieve economic growth through planning, public investment and social welfare measures, especially in education and healthcare.

- Kerala emphasised self reliant growth through planning

During the early years, especially from 1956 to 1990, Kerala governments followed inward looking policies. This means that they depended mostly on government funded projects instead of promoting private investment. The state implemented various Five Year Plans with goals like increasing per capita income, achieving self reliance in food production (mainly rice), ending the tenancy system, generating employment, reducing regional inequalities and uplifting the Scheduled Castes and Scheduled Tribes. However, one major weakness was the lack of support for private investment, production, productivity and technological development. For example, introducing mechanisation in agriculture or industries was avoided because it was seen as harmful to workers' jobs. The idea of development mostly meant setting up more

- Resisted mechanisation, fearing job loss

government departments and public sector undertakings (PSUs), which created jobs, but did not help the economic growth significantly. Even the introduction of computers in banks and offices during the 1980s was strongly opposed by trade unions, fearing job losses.

- Kerala initially resisted, later embraced reforms

After 1991, when the central government introduced liberalisation policies (LPG reforms), Kerala's political parties, especially the Left parties, initially opposed them. They feared that these reforms would negatively affect the poor and weaker sections. But over time, Kerala also benefited from market oriented reforms, which improved private investment, productivity and technology across different sectors.

1.1.2 Growth Trends in Kerala Economy from 1956 onwards

- Kerala formed with disparities, poverty and challenges

Kerala was formed in 1956 by merging the Princely States of Travancore and Cochin with the Malabar region of the Madras Presidency. At the time of formation, the economic conditions of Travancore and Cochin were comparatively better than Malabar, which had remained backward under British colonial rule. In 1956, Kerala was the smallest Indian state by area, but had the highest population density. The population was mostly rural, with the urban population share below 15 percent. The state faced acute socio - economic problems such as widespread poverty, high unemployment, low per capita income and poor productivity across sectors.

- In the 1960s, Kerala faced poverty and underdevelopment

In the 1960s, Kerala was among the poorest states in India. According to estimates by Dandekar and Rath, as many as 90.75 percent of people lived below the poverty line in 1960 – 61. Agriculture dominated the economy, but remained backward and inefficient. Traditional methods were used in farming and most agricultural holdings were small or marginal, making cultivation economically unviable. For better profitability, farmers shifted from food crops to cash crops such as rubber, coconut and spices. The livestock sector was poorly developed and milk productivity was among the lowest in India. Although Kerala had a long coastline and contributed nearly 30 percent to India's marine fish production during the mid - 1950s, fishing activities were largely unmechanised. Lack of modern equipment, poor fish preservation and marketing facilities constrained fisheries development.

- Kerala had weak industry with traditional dominance

Industrial development was minimal. In the mid 1950s, the state was industrially backward, with a dominance of traditional and labour intensive industries like coir, handloom, cashew and small scale cottage industries. Of the 9.7 lakhs people engaged in industry, only 17.5 percent were in factory based units, while the rest were employed in unorganised sectors. These small scale units generated very little re - investable surplus and suffered from low technological innovation and limited entrepreneurial capacity.

- poor connectivity and mechanisation.

Infrastructure development was in its infancy. Electricity generation was confined to a few hydroelectric stations and electrification was limited to just 846 locations in 1956. Road transport was largely unmechanised. In 1961, Kerala had only 24,480 registered motor vehicles, indicating poor connectivity and mechanisation.

- Kerala's state led model led to slow growth

The state followed a development model based on planned public investment, state control over markets and social welfare expansion, with little space for private sector participation. This overdependence on state resources for investment resulted in slow growth. During the 1960s and 70s, the average annual growth rate of Net Domestic Product (NDP) remained mostly below 2.6 percent, except for the second half of the 1960s. These low growth rates reflected policy weaknesses such as excessive market intervention, limited infrastructure development and neglect of private investment.

Table 1.1.1 Annual Average Growth Rate of Net Domestic Product (%)

Period	Primary	Secondary	Tertiary	Total
1960–1965	0.4	5.8	4.4	2.5
1965–1970	5.1	4.3	5.6	5.1
1970–1975	1.6	4	3.3	2.6
1975–1980	-1.2	5.6	4.1	2

Sources: *Bureau of Economics and Statistics (1977) and Department of Economics and Statistics (1986).*

The table shows that during 1960 – 1980, Kerala's secondary and tertiary sectors consistently grew faster than the primary sector. The primary sector showed very low or even negative growth, especially between 1975 and 1980. The economy began shifting from agriculture to industry and services during this period.

- Kerala began slow structural shift from agriculture

Based on state income data, Kerala experienced sector wise shifts in its economy. During the 1960s and 1970s, the share of the primary sector declined steadily, while the secondary and tertiary sectors expanded modestly. This marked the beginning of a slow but steady structural transformation.

Table 1.1.2 Sector-wise Distribution of Net Domestic Product (%)

Year	Primary	Secondary	Tertiary
1960–1961	56	15.2	28.8
1970–1971	50.5	17.1	32.4
1980–1981	40.3	20.6	39.2

Source: *Bureau of Economics and Statistics (1977) and Department of Economics and Statistics (1986).*

- Kerala's economy shifts from primary to service dominance

The data shows a steady decline in the share of the primary sector from 56% in 1960 – 61 to 40.3% in 1980 – 81. Meanwhile, the secondary and tertiary sectors gradually increased their shares, indicating a structural shift in Kerala's economy. By 1980 – 81, the service sector was approaching dominance, reflecting growing urbanisation and economic diversification.

- Gulf migration boosts Kerala's economy through remittances

A major shift occurred during the 1980s due to large scale migration of Keralites to Gulf countries, especially to West Asia. This resulted in a significant rise in foreign remittances, which played a crucial role in increasing household income, consumption and overall economic activity. Between 1980 – 81 and 1990 – 91, the state's Net State Domestic Product (NSDP) rose from ₹30,198 crores to ₹37,478 crores and per capita income increased from ₹11,909 to ₹12,929; which is given in Table 1.1.3.

Table 1.1.3 Net State Domestic Product and Per capita Income

Year	NSDP (₹ Crores)	*Per capita* Income (₹)
1980–1981	30,198	11,909
1985–1986	30,532	11,260
1990–1991	37,478	12,929

Source: *Department of Economics and Statistics (2010) and State Planning Board (2017).*

- Tertiary jobs rise as primary sector employment falls

The structure of employment also changed during this period. The tertiary sector recorded the highest growth in employment, with its share rising from 20 percent in 1961 to 34 percent in 1991. In contrast, employment in the primary sector declined steadily, while the share of the secondary sector remained largely unchanged. These trends closely mirrored the structural shifts in the economy.

- Remittances boosted urbanisation and service growth

Urbanisation remained slow until the 1980s, rising from 13.48 percent in 1951 to just 18.74 percent in 1981. However, towards the late 1970s and 1980s, urbanisation picked up due to growth in services and construction, supported by remittance inflows. Similarly, the growth in motor vehicles signalled increased mechanisation in the transport sector. By the end of the 1980s, Kerala had started experiencing some positive changes in poverty reduction, employment diversification and sectoral composition, although the overall growth rate remained modest due to heavy dependance on state funding and minimal private sector engagement.

- Liberalisation transforms Kerala's economy amid opposition

The introduction of economic liberalisation in 1991 at the national level brought a paradigm shift in India's development strategy. These market oriented reforms included liberalisation, privatisation and globalisation (LPG). While the Left parties in Kerala initially opposed these policies, fearing negative effects on the poor and marginalised, the liberalised environment ultimately led to significant changes in Kerala's economy as well. Since 1990, Kerala has experienced faster and more broad based economic growth. The NSDP rose sharply from ₹37,478 crores in 1990 – 91 to ₹426,131 crores in 2015 – 16 and it was ₹159,505 in 2022 – 23 (*Per capita* NSDP at constant prices), marking continued growth for the state. This period also saw significant sectoral growth and technological change across agriculture, industry and services. The primary sector, particularly agriculture and allied activities, witnessed variable but positive growth in some years. The industrial sector registered strong growth, especially in construction, manufacturing and electricity, due to increased private participation and use of technology.

Kerala achieved sustained, broad based economic growth since 1990

- Sub-sectors recorded high growth rates

The most notable development was the emergence of the tertiary sector as the leading contributor to the state's income. Sub-sectors like transport, banking, real estate and communication services recorded high growth rates. This trend marked a rapid structural transformation, where the economy moved from being agriculture dominated to service driven.

Table 1.1.4 Sectoral Share of NSDP/GSDP (%)

Year	Primary (%)	Secondary (%)	Tertiary (%)
1990–1991	29.3	19.4	51.3
2005–2006	16.6	23.3	60.1
2015–2016	10.6	26.4	63
2022–2023	8.97	24.9	64.2

Source: *MoSPI, Govt of India*

- Kerala's economy shifted strongly towards service sector

The table shows a sharp decline in the primary sector's share from 29.3% in 1990 – 91 to just 7.82% in 2023 – 24, highlighting reduced dependence on agriculture. The secondary sector remained relatively stable with slight growth, while the tertiary sector became dominant, peaking at over 64%.

- Economy slowed after 2008 global crisis

However, the state's increasing integration with the global economy made it vulnerable to external shocks. The Global Economic Crisis of 2008 had a severe impact on Kerala's economy. The NSDP growth rate declined from 8.93 percent in 2007 – 08 to 6.15 percent in 2008 – 09. The slowdown particularly affected construction, real estate, manufacturing and hospitality services. Growth remained subdued in subsequent years and only began to recover by 2014 –15. Even during this challenging period, the tertiary sector showed resilience, especially in sub-sectors like transport, storage, communications, banking and insurance. By 2015 – 16, the state achieved a growth rate of 8.24 percent, indicating recovery and renewed momentum.

- Kerala's growth faced setbacks from agriculture and investment shortfalls

Despite these achievements, this period also brought certain negative consequences. The fall in global prices of cash crops, especially rubber, affected Kerala's agricultural sector. Increased imports led to price drops, impacting marginal farmers and agricultural labourers. Some vulnerable groups, including tribal communities and landless workers, were marginalised in the liberalised economy. Expectations of large scale private investment in infrastructure through public - private partnership (PPP) models were also not fully realised. Nevertheless, the liberalised policies laid a strong foundation for higher investment, modernisation, employment generation, poverty reduction and improved living standards. The large inflows of foreign remittances continued to play a vital role in driving consumption and sustaining demand across sectors.

- Kerala shifted from slow growth to service led progress

Kerala's economic growth from 1956 to 2016 shows a clear evolution from a state regulated, slow growing economy to a service driven, liberalised economy. After 1991, the adoption of market based policies, combined with remittances and global connectivity, led to higher growth, technological transformation and better social and economic indicators. While challenges like unemployment, agricultural decline and inequality still persist, Kerala stands out at a phase of dynamic transformation, making it a unique model among Indian states.

1.1.3 Gross State Domestic Product - Per capita

- Kerala's GSDP grew by 6.5% in 2023 - 24

Kerala continues to be one of the top ten Indian states with a high Gross State Domestic Product (GSDP) and per capita income. In simple terms, GSDP is the total income earned by the state from the production of goods and services within a year. Per capita GSDP refers to the average income earned by a person in the state in that year. In 2023 – 24, Kerala showed strong economic growth. The real GSDP (which is adjusted for inflation using 2011–12 prices) reached ₹63,51,365 crores (Quick Estimate), showing a growth rate of 6.5%, which is an improvement from 4.2% in 2022 – 23.

Table 1.1.5 State Income Statistics for Kerala (2020–21 to 2023–24)

Item	2020-21	2021-22	2022-23 (P)	2023-24 (Q)	Percentage Change Over Previous Year 2021-22	2022-23 (P)	2023-24 (Q)
Gross State Domestic Product							
a) At Constant (2011-12) prices	51170923	57198296	59623686	63513653	11.78	4.24	6.52
b) At Current prices	77172389	92446542	102360246	114610867	19.79	10.72	11.97
Net State Domestic Product							
a) At Constant (2011-12) prices	46405239	52425887	54598961	58422079	12.97	4.14	7.00
b) At Current prices	68079798	81917594	90240846	101364139	20.32	10.16	12.32
Gross State Value Added (GSVA)							
a) At Constant (2011-12) prices	44498213	50099348	52763002	56564302	12.59	5.32	7.20

b) At Current prices	68579335	82303202	91614842	102604351	20.01	11.31	12.00
Per capita GSDP							
a) At Constant (2011-12) prices	146139	160791	166938	176072	10.03	3.82	5.47
b) At Current prices	220400	259878	286595	317723	17.91	10.28	10.86
Per capita **NSDP**							
a) At Constant (2011-12) prices	132531	147376	152870	161957	11.20	3.73	5.94
b) At Current prices	194432	230280	252662	281001	18.43	9.71	11.21

Source: *Department of Economics and Statistics, Government of Kerala*

- Kerala's real GSVA rose by 7.2% in 2023 – 24

Similarly, the real Gross State Value Added (GSVA), which measures the income generated from all productive activities, excluding taxes and subsidies, increased by 7.2% in 2023 – 24 compared to 5.3% in the previous year. When measured at current prices (without adjusting for inflation), the GSDP rose to ₹1,14,61,087 crores, showing a growth of 11.9%, which was higher than the 10.7% growth recorded in 2022 – 23.

- Kerala's per capita income outpaced the national average

The per capita GSDP of Kerala also increased significantly, reaching ₹1,76,072 in 2023 – 24. This means, on an average, each person in Kerala earned this amount in terms of economic output, which is much higher than the national average of ₹1,24,600. This shows that Kerala is performing well in terms of both total income and the average income of its people. These figures reflect the state's strong economic health and continued progress.

1.1.4 Inflation

- Indicators help us understand how prices are changing over time

In Kerala, changes in price levels are measured using different indices such as the Wholesale Price Index (WPI), the Consumer Price Index (CPI) and the Parity Index. These indicators help us understand how the prices of agricultural commodities, goods and services are changing over time.

1. Wholesale Price Index (WPI) for Agricultural Commodities

- WPI tracks wholesale price changes of goods

The Wholesale Price Index (WPI) is an important economic indicator that measures the average change in the prices of goods at the wholesale level, i.e., the prices at which products are sold in large quantities, usually before they reach the retail market or final consumers. It tracks price changes at the producer or wholesale level, not at the retail or consumer level. WPI includes prices of commodities like agricultural products, manufactured goods and minerals. It often excludes services. WPI is calculated using a base year, which is assigned an index value of 100. In India, the current base year for WPI is 2011 – 12, though state level data like Kerala use other base years (e.g., 2015 – 16).

- Kerala's WPI rose due to crop price surge

WPI helps the government, businesses and analysts understand inflation trends at the wholesale level. It is also used for policy decisions, such as setting interest rates or adjusting minimum support prices (MSP). In Kerala, the WPI for all crops climbed from 151.29 in 2023 to 160.18 in 2024 (up to August), based on the 2015 - 16 base year. This surge is mainly led by a 20.83 % increase in prices of non-food crops such as beverages, oilseeds and commercial crops, while food crops saw a more modest 5.88 % rise, largely due to costlier pulses, condiments, spices, fruits and vegetables. Cereal prices, however, remained nearly steady. The monthly data further illustrates this - WPI rose from 141.10 in January 2023 to 147.88 by December and in 2024 jumped from 151 in January to 176.22 in August, with food crops (172.54) and non-food items (185.00) showing sharp upwards movement.

2. Consumer Price Index (CPI) in Kerala

The Consumer Price Index (CPI) measures the average change in the prices of goods and services incurred by households over time. It reflects retail level inflation; i.e., the price rise that directly affects consumers. CPI includes essential items like food, clothing, housing, education, health care and transport, as well as services. It is widely used to track the cost of living, revise wages and guide government policies. Kerala's annual CPI increased from 192 in 2022 to 199 in 2023, reaching 207 by September 2024. This represents a 7.35 % inflation rate between 2022 and 2023. Notably, Kozhikode saw the highest regional CPI inflation at 5.73 %, followed by Kasargod (5.61 %) and Chalakkudy (5.45 %), while Punalur experienced the lowest rise. According to April 2025 data, Kerala's inflation rate surged to 5.9 %, nearly double of India's national average of 3.16 %, with sharp price increases in essentials like coconut oil (₹70/kg) and rice (₹8 – 15/kg). State level CPI data for agricultural labourers (Dec 2024) also show a cost of living increase across districts including Ernakulam and Thiruvananthapuram.

- CPI rose sharply, driven by essential goods

3. Parity Index

The Parity Index compares farmer's input costs such as seeds, fertilisers, fuel, transport and wages with the prices they receive, the out put. In 2022, the index stood at 55.75, but by 2023 it had fallen to 54, indicating input costs are outpacing output receipts. This index slightly improved to 54.40 by May 2024, yet remains below ideal levels. Furthermore, in 2023, the prices paid by farmers were indexed at 18,135.1, while prices received were only 9,794, underscoring the increasing cost pressures on agriculture.

- Farmers' input costs are rising faster than the prices

4. Wages in the Agricultural Sector

In Kerala's agricultural sector, both skilled and unskilled wage rates have risen notably. Daily wages for skilled workers such as carpenters and masons increased by approximately 6 %, rising from around ₹1,015-₹1,018 in 2022 – 23 to over ₹1,080 in 2023 - 24. Unskilled agricultural labourers such as paddy field workers also saw wage increases. Male workers' wages rose by 4.67 % from ₹792.20 to ₹829.22, while female worker's wages increased by 6.52 % from ₹612.58 to ₹652.50 in the same period. These wage hikes reflect higher rural incomes, but they also contribute to rising production costs for farmers.

- Rising wages boost income but raise costs

At the national level, the All-India CPI was 3.16 % in April 2025 (rural 2.92 %, urban 3.36 %). However, Kerala's inflation remains significantly higher at 5.9 % in April 2025 making it the state with the highest inflation rate in India. The discrepancy shows Kerala's sharper consumer price pressure compared to the rest of the country.

- High inflation strains farmers and consumers alike

Across all indicators WPI, CPI, Parity Index and wage rates; Kerala continues to experience rising price levels in agricultural inputs and consumer goods. While farmers are receiving slightly better prices, their input costs are rising faster, squeezing profit margins. Households are also feeling the pinch due to elevated inflation, especially in food and essential items. The disparity between farm input costs, output prices and consumer inflation signifies economic pressures for both producers and consumers in the state.

1.1.4.1 State Interventions in Inflation Control and Public Distribution in Kerala

- Kerala boosts ration transparency with digital reforms, audits

The Government of Kerala has introduced several important measures to strengthen the public distribution system and control inflation. One of the key steps is the social auditing of Fair Price Shops, which helps to ensure transparency and accountability in the distribution of subsidised food and other essential commodities. To make the process more efficient, the government has launched an online system where people can apply for ration cards and access services digitally.

- Mobile ration shops aid tribal communities

A notable welfare initiative is the Mobile Ration Shop Scheme, designed specifically for tribal families living in remote hilly areas. These mobile shops deliver ration items directly to their homes, protecting them from market exploitation and ensuring last mile delivery of food security. As of now, this scheme is running in 10 districts of Kerala and supports the vision of a hunger free state.

- K Stores revolutionise ration shops with technology and convenience

In 2024, the state also introduced the K Store, a modern version of the traditional Fair Price Shops. K Store aims to upgrade existing shops with digital facilities and offer a variety of services. It not only distributes subsidised essential commodities, but also sells products from various Public Sector Undertakings (PSUs) and provides technology based services like utility bill payments and digital access.

- Price monitoring enables targeted inflation control measures

To monitor and analyse price movements in the market, Kerala established the Centre for Price Research. This centre prepares a Weekly Price Analysis Report, which tracks the wholesale and retail prices of 13 key commodities in over 70 markets across the state. The data helps the government plan timely and targeted market intervention strategies.

- Kerala enforces fair pricing through digital inspection app

In addition to these indirect interventions, the government also takes direct action to check rising prices. Regular inspections are carried out to detect unfair pricing practices in public markets. To make these inspections more efficient and transparent, Kerala launched a mobile app for Fair Price Shop inspections; the first of its kind in India. This digital tool helps ensure quick and reliable monitoring.

- Kerala's state interventions are focussed on controlling inflation

Thus, Kerala's state interventions are focussed on controlling inflation, improving public access to food and essential items and using digital governance to make the public distribution system more effective and inclusive.

Summarised Overview

Kerala's economy has transformed significantly since 1956, moving from a state controlled system to adopting market reforms. In the early decades, the government focussed on public sector growth, land reforms and welfare programmes, but neglected private investment and technology, leading to slow economic progress. After India's economic liberalisation in 1991, Kerala gradually adopted market friendly policies, which boosted private investment, services and remittance driven growth. Despite initial resistance, these reforms helped the economy grow faster, though challenges like agricultural decline and unemployment persisted. Today, Kerala has a strong service sector, high per capita income and better living standards, but inflation and uneven development remain concerns.

The state government has taken active steps to manage inflation and support vulnerable groups through improved public distribution systems. Initiatives like mobile ration shops for tribal communities, digital ration card services and modern K-Stores ensure food security and fair pricing. Kerala also monitors market prices closely and uses technology to prevent exploitation, though its inflation rate remains higher than the national average. While the economy has progressed from its earlier socialist approach to a more balanced model, the focus remains on inclusive growth, combining market reforms with strong welfare measures to benefit all sections of society.

Assignments

1. Trace the key growth trends in Kerala's economy before and after 1991.
2. Present a comparative analysis of sectoral contributions to GSDP from 1960 – 2024.
3. Examine the role of remittances in Kerala's economic transformation.
4. Analyse the recent inflation trends in Kerala using CPI and WPI data.
5. Explain the state interventions in controlling inflation and ensuring food security.

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Suggested Reading

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3. Kannan, K. P. (2000). *Poverty Alleviation as Advancing Basic Capabilities: Kerala's Achievements Compared.* Centre for Development Studies.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2 Kerala Model of Development and Social Indicators

Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend the concept and evolution of the Kerala Model of Development
- assess Kerala's achievements in social development indicators
- examine the components and trends of Kerala's HDI
- compare Kerala's development outcomes with other Indian states using HDI

Background

Have you ever wondered how a state with only moderate economic growth can still lead the country in health, literacy and life expectancy? Kerala's development puzzle has long fascinated economists, policymakers and social scientists across the world. Known as the 'Kerala Model,' this unique approach challenges the traditional belief that rapid economic growth and high GDP are the only paths to development. Instead, it shows that investing in people through quality education, accessible healthcare, land reforms and social justice can lead to remarkable social outcomes even without massive industrial growth.

Kerala's focus on human development rather than just economic output has made it a role model for inclusive and equitable growth. The state has shown that public action, community participation and strong political will can transform lives, especially when backed by social movements and committed governance. This success raises an important question: can a society be truly 'developed' without being economically rich?

The unique evolution of the Kerala Model can be understood by examining how historical reforms, people's participation, and progressive social policies combined to create one of the most socially advanced and inclusive societies in India. This exploration also highlights the strengths, limitations, and ongoing challenges of the model.

Keywords

Human Development Index, Social Indicators, Literacy, Health, Education, Human Capitals

Discussion

1.2.1 The Kerala Model of Development

- Kerala achieved high development through equity and governance

The Kerala Model of Development refers to the unique socio-economic progress achieved by the southern Indian state of Kerala, characterised by high human development indicators despite relatively low per capita income in its early stages. This model gained global recognition by demonstrating that improving quality of life does not always require rapid economic growth, but rather depends on effective public policies, social equity and democratic governance.

- CDS study highlighted Kerala's progress beyond GDP

The origins of this concept can be traced to a 1975 study by the Centre for Development Studies (CDS), Thiruvananthapuram, titled *Poverty, Unemployment and Development Policy: A Case Study of Selected Issues with Reference to Kerala.* While this report did not explicitly use the term 'Kerala Model,' it systematically documented Kerala's exceptional achievements in literacy, healthcare and life expectancy, despite its economic backwardness compared to other Indian states. These findings challenged conventional development theories that equated progress solely with GDP growth.

- Land reforms, public education and grassroots movements created high social development

The phrase Kerala Model gradually entered academic discourse through multiple scholars. Anthropologists Richard Franke and Barbara Chasin played a key role in popularising it through their 1989 book '*Kerala: Radical Reform as Development in an Indian State,'* which analysed how land reforms, public education and grassroots movements created high social development. Around the same time, economist

- Kerala Model emphasised welfare over economic growth

Amartya Sen's capability approach which emphasised health and education as measures of progress helped theoretically explain Kerala's success, even though he did not originally coin the term. By the 1980s, international organisations like the United Nations began using Kerala Model to describe an alternative development path focused on human welfare over pure economic expansion.

- Reforms ensured equity, literacy, health, longevity

Kerala's development path is rooted in historical reforms, particularly the land redistribution policies implemented by leftist governments in the 1950s and 60s, which abolished feudal landlordism and granted land to the landless. This was complemented by strong public investments in education and healthcare, leading to a near universal literacy rate (96.2% as per the 2011 Census, compared to India's 74%) and one of the lowest infant mortality rates (6 per 1,000 live births in 2020, against India's 28). Additionally, Kerala's life expectancy (77 years in 2022, higher than the national average of 70 years) rivals that of many developed nations. These achievements were made possible through grassroots movements, strong labour rights and an active civil society, distinguishing Kerala from top down development models like China's.

- Remittances and reforms transformed Kerala's welfare model

However, the Kerala Model initially faced criticism for unemployment and lagging industrial growth, leading to economic stagnation in the 1970s - 80s. The situation improved in the 1990s due to remittances from Non-Resident Keralites (NRKs) working in Gulf countries, which significantly boosted the state's economy. By 2019 - 20, Kerala's per capita income (₹2.04 lakhs) was 65% higher than India's average (₹1.24 lakhs), marking a shift from a purely welfare based model to a more balanced growth-with-equity approach. Recent initiatives like Kerala Fibre Optic Network (K-FON), KIIFB funded infrastructure projects and industrial corridors aim to enhance digital connectivity and economic diversification.

- Balances welfare gains with ongoing development challenges

Despite its successes, challenges remain, including rising public debt (over 37% of GSDP in 2023-24), exclusion of tribal communities and reliance on migrant labour. Additionally, external shocks like climate disasters (2018 floods) and global economic downturns pose risks to Kerala's stability. Nevertheless, the Kerala Model remains a globally studied example of how democratic governance, social welfare and equitable policies can achieve sustainable development without excessive reliance on GDP growth.

- Kerala Model links people's well being with true progress

Kerala's journey shows how a state can move from focussing mainly on social development to also becoming economically stronger, while still caring for all its people. This makes Kerala's development model important for economics students, as it shows that real progress means not just economic growth, but also the well being of the people. The term Kerala Model stands for both a unique success story in one state and a different way of thinking about how development should happen.

1.2.2 Social Indicators in Kerala

- Kerala's development focuses on equity, education and inclusion

Kerala stands out in India for its remarkable achievements in human development, driven by strong social indicators such as literacy, education, gender equity, health access and inclusive education policies. Unlike conventional development models that prioritise only economic growth, Kerala's approach emphasises equitable access to quality education, healthcare and social justice. These indicators reflect the quality of life, human capital formation and inclusivity in public policy and together they form the foundation of the Kerala Model of Development.

i. Literacy and Human Capital Formation

- Kerala's rising literacy reflects sustained public efforts

Literacy, a core indicator of human capital, has been a long standing strength of Kerala. The state leads India with a literacy rate of 94 percent, according to the 2011 Census. What is the most notable is the continuous improvement over time from only 47.2 percent in 1951 to almost its double in 2011. Kerala has also succeeded in significantly narrowing the male - female literacy gap, from 22 percentage points in 1951 to merely 4 percent by 2011. Female literacy now stands at 92.1 percent, the highest in the country, compared to the national average of around 65.5 percent. Literacy is high across all districts, with Kottayam recording the highest rate at 97.2 percent, followed by Pathanamthitta (96.6 percent) and Ernakulam (95.9 percent). Even Wayanad, which has the lowest literacy rate in the state, still stands at a strong 89 percent. These achievements are the result of consistent public investment and community participation in education, led by institutions such as the Kerala State Literacy Mission Authority (KSLMA), which has expanded its focus to include social and digital literacy.

ii. Enrolment, Schooling and Educational Inclusiveness

- Kerala ensures inclusive enrolment through equitable education policies

Kerala's school education system is known for its inclusivity and access. In 2024-25 (provisional), the total school enrolment in the state stood at 36.4 lakhs students, slightly lower than the 37.5 lakhs recorded in the previous year. This marginal decline is attributed to Kerala's low birth rate rather than any failure of the education system. A majority of the students are enrolled in government and aided schools and enrolment data indicates that students from Scheduled Castes (SC) and Scheduled Tribes (ST) are more likely to be found in government institutions. The gender gap in enrolment is extremely narrow, with girls constituting 49.1 percent of total enrolment. Notably, Malappuram has the highest number of schools (1,571), followed by Kannur and Kozhikode. Kerala's success in ensuring nearly universal enrolment across all social categories illustrates the state's commitment to equity in education.

iii. Dropout Rates and Retention

- Kerala's strong support systems keep dropout rates minimal

One of the most outstanding social indicators in Kerala is its low drop out rate. While the all India average dropout rate at the secondary level stands at around 17.1 percent, Kerala has managed to reduce its overall drop out rate to an astonishingly low 0.08 percent in 2023 - 24. This rate has remained stable since 2022 - 23 and is the lowest in the country. A closer analysis shows that drop out rates for Scheduled Caste students is 0.06 percent, while for Scheduled Tribe students it is relatively higher at 0.67 percent. District wise, Wayanad (0.42 percent) and Idukki (0.29 percent) report higher drop out ratios, primarily due to geographical and economic disadvantages. Despite these challenges, the state's consistent support through residential schools, scholarships and mid day meal schemes has helped to maintain student retention at impressive levels.

iv. Targeted Literacy and Lifelong Learning Programmes

Kerala has made concerted efforts to ensure that education reaches every section of society. The Kerala State Literacy Mission Authority runs targeted programmes for marginalised communities including tribal groups, Scheduled Castes, migrant labourers and transgenders. The Attappadi Tribal Literacy Programme, for example, covered 192 tribal settlements and enabled 1,458 learners to become literate, while the Wayanad Tribal Literacy Project helped more than 20,000 tribal individuals achieve literacy. Similarly, the Changathi project for migrant workers, launched in 2017, has trained thousands of labourers in basic Malayalam and literacy. The Navachethana project provided fourth standard level education to 3,801 Scheduled Caste learners in 14 districts, while Samanwaya extended continuing education opportunities to transgender individuals, including through residential centres like "Paddanaveedu" in Pathanamthitta. These projects reflect Kerala's inclusive and intersectional approach to education policy.

- Inclusive literacy programmes empower all social groups

v. Equivalency and Social Literacy Programmes

Kerala also offers equivalency programmes that allow school dropouts to re-enter the education stream. In 2023 - 24, 1,697 students appeared for the seventh standard equivalency examination and 1,642 qualified for higher studies. Moreover, 21,345 students, including 52 transgenders, completed 10th and higher secondary equivalency courses. KSLMA also implements wide ranging social literacy programmes focusing on environmental awareness, cyber literacy, constitutional literacy, gender sensitivity and Braille literacy. Notable among them is the Environmental Literacy Programme conducted in districts like Kasaragod, Palakkad and Alappuzha and the E-Muttam Cyber Literacy Project that benefited 26,971 people across 14 districts. These programmes help to promote not just basic literacy but civic responsibility, digital skills and social awareness.

- Equivalency and social literacy programmes promote lifelong learning

vi. School Infrastructure and ICT Integration

Kerala's government schools boast one of the best examples of physical infrastructure in the country. Almost all government schools (99.8 percent) have access to drinking water and toilet facilities. Major investments have been made under KIIFB and NABARD for building infrastructure. Technological integration in education is led by the Kerala Infrastructure and Technology for Education (KITE), which introduced smart classrooms, AI-integrated syllabi for Grade 7 and deployed over 29,000 robotic kits. The use of platforms like KITE VICTERS and KOOL (KITE Open Online Learning) during the pandemic ensured educational continuity for 43 lakhs students. KITE's AI engine project, Little KITEs training camps and the First Bell digital classes represent a

- Modern infrastructure and technology strengthen public school education transformative leap in making Kerala a digitally empowered knowledge society.

vii. Higher Education and Gender Inclusiveness

- Higher education shows gender balance and academic excellence

Kerala has also made significant progress in higher education, with a Gross Enrolment Ratio (GER) of 41.3 percent, which is among the top ten in the country. In 2023 - 24, 3.7 lakhs students were enrolled in Arts and Science colleges, with 65.3 percent being female. Economics and English are the most popular B. A. courses, while Physics and Mathematics lead among B. Sc. subjects. Postgraduate enrolment also shows a majority for women (66.2 percent), highlighting gender inclusiveness. Scheduled Caste students constitute 9.34 percent and ST students 2.47 percent of the total higher education enrolment. Kerala's universities like the University of Kerala and M. G. University have received top NAAC rankings (A++) and institutions such as IIT Palakkad, IIM Kozhikode, Sreenarayanaguru Open University and the Digital University continue to improve Kerala's academic prestige.

viii. Medicine and Public Health

- Strong public health system ensures widespread healthcare access

Healthcare is a major pillar of human development and one of the most important social indicators used to assess the well being and quality of life in any society. In this regard, Kerala presents a highly commendable model, having achieved significant milestones in public health outcomes through sustained investment in the health sector, decentralised planning and inclusive service delivery. The state's health system is largely public sector led and has achieved near universal access to basic health services, contributing to Kerala's impressive life expectancy, low infant mortality and effective disease control mechanisms.

- Exceptional health indicators show effective and inclusive care

The state's average life expectancy is the highest in India at 75 years; 71.9 years for males and 78 years for females compared to the national average of 70 years. Kerala also has the lowest Infant Mortality Rate (IMR) among the Indian states at just 6 per 1,000 live births, while the national average remains at 28. The Neo-Natal Mortality Rate is just 4, Under 5 Mortality Rate is 8 and the Maternal Mortality Ratio (MMR) is 19, which is significantly lower than the national figure of 97. These outcomes are supported by the fact that 99.9 percent of deliveries in Kerala are attended by qualified health professionals - an indicator of effective institutional health coverage.

- Health reforms and workforce expansion improve service delivery

Kerala's health system comprises over 1,471 government health institutions with beds, offering 59,847 total beds, including 54,092 in modern medicine and 5,755 in AYUSH systems. The public health work force includes 13,900 doctors, 28,235 medical and paramedical personnel and thousands of nurses and technicians. The Aardram Mission, Kerala's major health reform initiative, has played a central role in transforming Primary Health Centres (PHCs) into Family Health Centres (FHCs). So far, 694 FHCs have been completed across three phases. The mission also upgraded 76 Community Health Centres (CHCs) into Block Family Health Centres, introduced patient friendly outpatient departments in district, taluk and medical college hospitals and created over 3,700 new posts in the health sector since 2016.

- Digital health initiatives and insurance enhance healthcare access

Kerala has made substantial strides in digitising health services. The e-Health Project, implemented in 654 hospitals, has digitised health records of over 2.59 crores people, enabling paperless hospital services and integrated patient care. The state also invests heavily in public health, allocating 6.43 percent of total government expenditure and 1.66 percent of GSDP to health. Over 41.99 lakhs families are enrolled under the Karunya Arogya Suraksha Padhathi (KASP), Kerala's health insurance programme integrated with the central PM-JAY scheme.

- Comprehensive health efforts address both old and new challenges

The state also addresses evolving health challenges like non-communicable diseases, mental health, geriatric care and communicable diseases like dengue, leptospirosis and COVID-19. It implements large scale immunisation programmes and has established 9 public health labs and a statewide Newborn Screening Programme, testing over 11.99 lakhs infants for critical disorders. Kerala's Janakeeya Arogya Kendrams, now numbering over 6,825, serve as grassroots level wellness centres. The National Quality Assurance Standards (NQAS) accreditation has been granted to 197 health institutions and palliative care services have been integrated into public health delivery.

- Preventive care and swift responses strengthen health resilience

Another major element of Kerala's success in public health is its strong emphasis on preventive healthcare and early intervention. Health awareness campaigns, effective vaccination drives, sanitation programmes and women's health initiatives have all contributed to improved health outcomes. The state's response to public health emergencies, such as the Nipah virus outbreak and the COVID-19 pandemic, showcased its capacity for rapid mobilisation, effective governance and people centred communication. Kerala's COVID-19 management, especially in the early stages, earned global recognition for its proactive testing, contact tracing, community surveillance and integration of local self governments in health response.

- Affordable care and community models ensure inclusive health support

Additionally, the state has ensured access to affordable healthcare through public health insurance schemes such as Karunya Arogya Suraksha Padhathi (KASP), which is Kerala's version of the national Ayushman Bharat scheme. This provides financial protection and cashless treatment for economically vulnerable sections. Kerala has also focussed on mental health, geriatric care and palliative care, with several model initiatives like the "Pain and Palliative Care" in Malappuram and Kozhikode, which have become community led health models of national and international interest.

- Social awareness and equity drive Kerala's health success

Kerala's public health achievements are underpinned by its high levels of female literacy, social awareness, decentralised governance and people's participation in development. These structural strengths have enabled the state to achieve what economists call a "socially advanced society," even with modest levels of per capita income. The success of Kerala's health care model shows that equitable public health delivery is not only a social responsibility, but also a necessary condition for enhancing labour productivity, reducing poverty and promoting inclusive economic growth.

- Kerala shows how social progress leads development

The social indicators of Kerala offer compelling evidence of a development path that is inclusive, equitable and focussed on human welfare. With the highest literacy rate, lowest drop out rates, gender balanced enrolment, strong public health outcomes, strong infrastructure and innovative approaches to digital and inclusive education, Kerala exemplifies how social policy can effectively complement economic goals. The state's achievements in health care marked by high life expectancy, low infant and maternal mortality rates and widespread access to quality medical services further strengthen its reputation as a socially advanced society.

1.2.3 Human Development Index (HDI) of Kerala

The HDI, a composite metrics developed by the United Nations Development Programme (UNDP), evaluates

- HDI highlights Kerala's success through social investment

three fundamental dimensions of development: health (life expectancy at birth), education (literacy and schooling) and economic prosperity (per capita income, PCI). Kerala's exceptional performance in these areas offers critical insights into how social investments, governance and equitable policies can drive sustainable human development, even in the absence of rapid industrialisation.

- High life expectancy and schooling boost Kerala's HDI

The HDI, a composite index, captures three dimensions of human development, *viz*; health, education and standard of living. In Kerala, each component scores strongly. Kerala has a life expectancy of around 75 years, while the mean years of schooling among adults is approximately 9.5 years, with expected years of schooling at 15.2 years.

- Modest income yet high HDI reflects efficient social development

The standard of living component, measured through Gross National Income (GNI) per capita in purchasing power parity (PPP) terms, is more modest at around USD 11,453. Despite this lower income, Kerala's income index contributes to a high aggregate HDI, showing the state's ability to translate limited resources into substantial human development outcomes - a phenomenon classic to the Kerala Model.

- Rising HDI shows steady progress in various indicators

Over the past three decades, Kerala's HDI has shown a remarkable upwards trajectory, elevating from approximately 0.593 in 2000, to 0.709 in 2010 and reaching around 0.766 in 2019. This positive trend highlights the state's success in sustaining improvements in life expectancy, literacy, educational achievements and health infrastructure, even amidst income constraints.

Table 1.2.1 Kerala's HDI Profile (2022–2023)

Dimension	Indicator	Data
Health (Life Expectancy)	Life expectancy at birth	~75 years
Education	Mean Years Schooling	9.5 years
	Expected Years Schooling	15.2 years
Standard of Living	GNI per capita (PPP USD)	~11,453 USD
Composite HDI	Subnational HDI (2022)	0.758
	State HDI (UNDP 2023 Report)	0.799 (Rank 2)

- Kerala's HDI paradox proves growth is not just GDP

Economists often highlight Kerala's 'HDI paradox' : high human development achievements despite lower GDP per capita. This paradox reinforces theoretical debates on the relative importance of public social expenditure, redistribution, gender equity and decentralised governance, all of which underpin the state's inclusive growth strategy.

1.2.4 Human Development Index of Kerala - Comparison with Other Indian States

- Kerala ranks second in HDI due to balanced progress

Kerala consistently ranks among the top Indian states in terms of HDI. According to the most recent HDI data for 2022, Kerala has an HDI score of 0.758, placing it second among the Indian states, just after Goa (0.760). This high ranking reflects Kerala's strong performance in all three HDI components, *viz*; health, education and income.

Table 1.2.2 Indian States and Union Territories by HDI (2022)

Rank	State/UT	HDI (2022)
1	Goa	0.76
2	Kerala	0.758
3	Chandigarh	0.751
4	Puducherry	0.741
5	Delhi	0.734
6	Jammu & Kashmir	0.72
7	Lakshadweep	0.719
8	Himachal Pradesh	0.715
9	Sikkim	0.712
10	Mizoram	0.709
32	Madhya Pradesh	0.611
33	Odisha	0.61
34	Uttar Pradesh	0.609
35	Jharkhand	0.6
36	Bihar	0.577

Source: *UNDP, 2023; Global Data Lab*

- HDI 2022 shows Kerala and Goa leading development

The Human Development Index (HDI) data for 2022 clearly highlights regional disparities in development across India. Goa (0.760) and Kerala (0.758) lead the rankings, showcasing strong outcomes in health, education and standard of living. Union territories like Chandigarh, Puducherry and Delhi also perform well due to better infrastructure and access to services.

- Lower HDI in some states reflects deep inequalities

In contrast, the bottom five states like Madhya Pradesh (0.611), Odisha (0.610), Uttar Pradesh (0.609), Jharkhand (0.600) and Bihar (0.577) exhibit significantly lower HDI values. These states face persistent challenges like poor health facilities, lower literacy rates and income inequality, reflecting deeper socio-economic issues. This contrast demonstrates how state level policy differences and investment in human capital development, especially in health and education, play a crucial role in improving HDI. Kerala's near top position emphasises the success of its social sector driven development model.

1.2.4.1 Kerala's HDI Performance Over Time

- Steady HDI growth reflects Kerala's people focussed development

Kerala's HDI has shown a steady rise over the decades. In 1990, its HDI was 0.551, which improved to 0.751 by 2020. This growth illustrates sustained progress in public health services, literacy and income generation. In fact, Kerala had the highest HDI (0.810) among Indian states even in 2007 – 08, when calculated based on consumption expenditure. These improvements reflect Kerala's human centric model of development that prioritises social infrastructure.

Table 1.2.3 HDI Trend of Kerala (1990 – 2022)

Year	HDI Value
1990	0.551
2000	0.592
2010	0.706
2020	0.751
2022	0.758

Source: *UNDP & Wikipedia*

- Kerala's HDI has steadily improved, showing consistent progress

From the above table it is understood that, the Human Development Index (HDI) of Kerala has shown a consistent upwards trend over the past three decades. In 1990, Kerala's HDI was 0.551, which already placed it ahead of many other Indian states. This value steadily rose to 0.592 in 2000, 0.706 in 2010 and further to 0.751 by 2020, eventually reaching 0.758 in 2022.

- Steady HDI rise shows impact of health and education reforms

This continuous improvement reflects Kerala's sustained investments in public health, universal education and social welfare programmes. The sharp rise between 2000 and 2010 indicates the successful implementation of health reforms, literacy campaigns and women empowerment initiatives during that period.

- High HDI despite modest income proves Kerala Model's success

The data also reveal that Kerala maintained a high human development status over time, despite moderate economic growth, showcasing the effectiveness of the Kerala Model of Development, which focusses on equitable access to social services rather than solely on income based growth.

- Kerala leads in health and education despite lower income

Compared to other states, Kerala outperforms most in health and education indicators, but ranks moderate in income levels. States like Goa, Delhi and Maharashtra have higher *per capita* incomes, but fall behind in education or health components. On the other hand, Bihar, with an HDI of 0.577, ranks last due to low literacy, poor healthcare facilities and low *per capita* income.

Summarised Overview

The Kerala Model of Development is a unique approach that focusses on improving people's lives through education, healthcare and social welfare, rather than just economic growth. Starting in the 1970s, Kerala achieved high literacy rates (94%), low infant mortality (6 per 1,000 births) and long life expectancy (75 years), despite having lower income levels than the other Indian states. This success came from land reforms, strong public health systems and investments in education. However, challenges like unemployment, reliance on foreign remittances and regional inequalities remain. Recent initiatives like digital education, healthcare reforms and infrastructure projects aim to sustain Kerala's progress while addressing these gaps.

Kerala consistently ranks among India's top states in the Human Development Index (HDI), with a score of 0.758 in 2022, just behind Goa. It performs well in health, education and income, showing that social policies can lead to better living standards, even without rapid economic growth. While states like Bihar and Uttar Pradesh struggle with low HDI due to poor healthcare and education, Kerala's success proves that investing in people through schools, hospitals and welfare programmes creates long term benefits. However, economic disparities between districts and gender gaps in jobs reveal persistent challenges, keeping Kerala's development model a work in progress.

Assignments

1. Trace the historical foundations and evolution of the Kerala Model of Development.
2. Explain how Kerala achieved near universal literacy and low drop out rates.
3. Examine the key reasons for Kerala's high HDI ranking among Indian states.
4. Compare Kerala's social indicators with other Indian states.
5. Analyse the role of literacy missions and digital initiatives in improving human development.
6. Identify the limitations or criticisms of the Kerala Model from an economic perspective.

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 3 Revisiting the Kerala Model and Development Challenges

Learning Outcomes

After completing this unit, the learners will be able to:

- discuss the emerging challenges and criticisms of the Kerala Model
- identify the issues of lop sided development in Kerala
- examine issues related to unemployment, poverty and gender disparities
- know the role and impact of policy responses like the Nava Kerala Mission

Background

If Kerala is so successful in education, health and social welfare, why does it still face problems like unemployment, income gaps between regions and gender inequality? This is the central question of this unit. While Kerala has achieved great progress in many areas, new challenges have come up that need attention.

One major issue is that many educated young people are unable to find good jobs within the state. At the same time, some regions are growing faster than the others, creating imbalances. Kerala also depends a lot on money sent by people working abroad, especially in the Gulf. If this flow slows down, it can affect the economy. Another growing concern is the ageing population, which increases the need for health care and social support.

In this unit, learners will examine how Kerala is trying to deal with these challenges. It will help you think about whether it is possible to maintain social progress without enough local job opportunities and economic growth. You will also learn about new steps Kerala is taking to balance fairness with development.

Keywords

Human Development, Unemployment, Gender Gap, Multidimensional Poverty, Nava Kerala Mission

Discussion

1.3.1 Revisiting the Kerala Model

- Kerala's strong HDI shows balanced growth

In the present day, Kerala continues to lead most Indian states in terms of the Human Development Index (HDI). As of 2023, Kerala recorded an HDI of 0.758, which is second only to Goa (0.760) among the Indian states and well above the national average of 0.644. The latest data also show Kerala's component indicators to be impressive: a health index of 0.822, an education index of 0.732 and an income index of 0.724. Kerala's life expectancy is approximately 74.9 years and its literacy rate, at 93.9%, remains the highest in the country. These achievements have been made possible by a strong network of public health centres, effective school enrolment programmes and active community engagement.

- High youth unemployment reflects a growing skills mismatch

However, revisiting the Kerala Model today demands a critical re-evaluation of emerging challenges that the state now faces. One of the most significant concerns is high youth unemployment, particularly among the educated population. According to the Periodic Labour Force Survey (PLFS) 2023 - 24, Kerala's youth unemployment rate stood at 29.9%, compared to the national average of 10.2%. The gender gap is also significant; i.e., 47.1% of young women in Kerala were unemployed, versus 19.3% of men, which shows deep structural and cultural barriers in the job market. Moreover, the unemployment rate among Kerala's educated male youth is also much higher than the national average, reflecting an acute aspiration mismatch where many prefer to wait for white collar or government jobs rather than accept lower skilled employment. The high levels of education, which once contributed to Kerala's development miracle, are now contributing to what economists call a 'skills absorption gap.'

Economically, Kerala's growth is driven predominantly by the services sector, which accounts for around 66% of its Gross

State Domestic Product (GSDP). However, the contribution of industry remains low at about 23% and agriculture has declined significantly. The state's GSDP in 2024 – 25 was approximately ₹13.94 lakhs crores (US$167.8 billion), with a per capita income of roughly ₹3.96 lakhs (US$4,780). A significant part of Kerala's economy depends on remittances from its large diaspora, particularly in the Gulf countries, which constitute about 20% of the GSDP. While this inflow has supported consumption, construction and higher living standards, it has also created a structural dependence on external income, making the economy vulnerable to global labour market shifts and oil price fluctuations. Simultaneously, Kerala's fiscal indicators have shown strain, with the total outstanding liabilities of the State at 35.38% of GSDP in 2022 – 23, decreasing slightly to 34.20% in 2023 – 24, raising concerns about the long term sustainability of its welfare heavy expenditure model, though the recent decline offers hope that the burden will decline further in the coming years.

- Kerala's economy relies on services, remittances, faces fiscal pressure

Recognising these concerns, Kerala has launched several policy reforms under missions such as the Kerala Knowledge Economy Mission (KKEM). This programme aims to transform the educated population into a productive workforce by creating at least 20 lakhs (2 million) jobs over five years, of which 5 lakhs are targeted for immediate employment. The mission includes skill development, entrepreneurship, remote work opportunities and partnerships with public and private institutions like ASAP Kerala, K-DISC, ICT Academy and others. Through initiatives like 'Vijnana Keralam,' district level innovation councils have been set up to link academic output with demand in the industrial and service sectors. These efforts are designed to bridge the gap between human capital and local job markets, particularly in emerging areas like IT, tourism, health care and green industries.

- Policy efforts focus on linking skills with job creation

The Kerala model still stands out as a powerful example of inclusive human development, especially in the Indian context. But to remain relevant and effective in the 21st century, it must be recalibrated to address economic vulnerabilities and employment deficits. The challenge now is not to replace the model, but to reorient it towards sustainable economic growth, without compromising on its core values of social justice and equality. Kerala must aim to strengthen local employment through industry diversification, enhance fiscal responsibility, promote innovation and digital inclusion and harness its demographic dividend more effectively. In this light, revisiting

- The kerala model must evolve to balance equity with growth the Kerala model is not just about looking back, it is about building for the future, with a renewed focus on balancing human development with economic dynamism.

1.3.2 Lopsided Development in Kerala

- Behind social success, imbalanced growth poses long term challenges

Kerala has long been hailed as a model for inclusive development, often drawing international attention for achieving impressive social outcomes such as high literacy, low infant and maternal mortality, gender parity in education and near universal healthcare. These achievements have earned Kerala a reputation for prioritising social development over purely economic gains, leading many to refer to it as the Kerala model of development. However, beneath these successes lies a significant issue that continues to challenge the state's long term sustainability: lopsided development. This term refers to the uneven or unbalanced growth that occurs when certain regions, sectors or social groups advance rapidly while others lag behind. In Kerala's case, this imbalance is evident across geographical regions, economic sectors and demographic groups, revealing structural flaws in its growth trajectory.

- Regional income gaps highlight Kerala's uneven economic development

One of the most striking indicators of lopsided development in Kerala is the wide disparity in income and economic output across its districts. According to the Economic Review 2024, published by the Kerala State Planning Board, the Gross District Value Added (GDVA), which measures the economic output of each district, shows a clear imbalance. For instance, in the fiscal year 2023 - 24, Ernakulam - home to Kochi and a major hub for trade, finance and industry recorded a GDVA of ₹1,35,99,835 lakhs, the highest in the state. In stark contrast, Wayanad, a tribal and hilly district with minimal industrial presence, registered a GDVA of only ₹18,36,884 lakhs. This means that the economic output of Eranakulam is more than seven times that of Wayanad. Per capita income figures reinforce this divide. Ernakulam reported a per capita GDVA of ₹2,38,986, while Wayanad, Malappuram and Kasaragod recorded ₹91,128, ₹1,01,130 and ₹1,30,772 respectively. These numbers reveal spatial inequality where urbanised coastal districts experience prosperity and interior, highland or tribal districts continue to face economic stagnation.

Sectoral imbalance further amplifies this issue. Kerala's economy is overwhelmingly driven by the tertiary or service sector, which contributed a significant 64.25 percent of the Gross State Value Added (GSVA) in 2023 – 24. This sector

- Overreliance on services and weak industry deepen development gaps

includes information technology, tourism, trade, education and financial services. In comparison, the secondary sector comprising manufacturing and construction accounted for only 26.97 percent and the primary sector, mainly agriculture and allied activities, just 8.78 percent. While the strong performance of the service sector has contributed to Kerala's resilience, especially during crisis like the COVID-19 pandemic, overdependence on services has led to structural vulnerabilities. Industrial growth is limited to a few regions such as Ernakulam and Palakkad, while agriculture remains under performing, despite employing a substantial segment of the rural population. The skewed sectoral contribution suggests an economy that is not sufficiently diversified. The neglect of agriculture and the weak spread of manufacturing opportunities restrict job creation and income growth in the less developed districts, reinforcing the developmental divide.

- Infrastructure gaps across regions hinder balanced development progress

Infrastructure, another major component of balanced development, also reveals patterns of inequality in Kerala. Though the state possesses a widespread road network and full electrification, disparities persist in the quality and accessibility of infrastructure across regions. As per the Economic Review 2024, Kerala had over 1.91 lakhs kilometres of roads in 2023 – 24, but around 80 percent of these were under the control of Local Self Governments, which often lack the financial and technical capacity to maintain them adequately. Districts like Wayanad and Idukki, which are predominantly hilly and forested, continue to struggle with inadequate road connectivity, poor internet access and insufficient public transport, limiting economic opportunities and access to essential services. In contrast, Ernakulam, Thiruvananthapuram and Kozhikode benefit from superior road networks, national highways, industrial corridors and access to ports and airports. The Kerala Infrastructure Investment Fund Board (KIIFB) has made significant investments in flagship projects like the Hill Highway and the Vizhinjam Seaport, but such projects often disproportionately benefit already developed districts, leaving behind the under developed regions.

Despite Kerala's enviable achievements in health and education, social disparities continue to persist, particularly among Scheduled Castes (SC), Scheduled Tribes (ST) and other marginalised communities. For instance, Kerala's overall infant mortality rate is as low as 6 per 1,000 live births and the maternal mortality rate is just 19 per lakhs births - both among the best in India. These statistics often mask the poor access to healthcare and nutrition faced by tribal communities. Wayanad, which has the highest proportion of Scheduled Tribe population in the state (18.5 percent), experiences limited access to specialist health facilities and quality schooling. According to the Kerala Economic Review 2024, 1,10,930 SC families and 42,363 ST families have been provided housing support under the LIFE Mission, yet these interventions, while commendable, still fall short of addressing the full range of socio-economic disadvantages they face. Many tribal students continue to depend on government run hostels and drop out rates among the marginalised groups remain high, compared to the general population. Furthermore, while Kerala has nearly achieved gender parity in literacy, women continue to be under represented in formal employment sectors. In the organised sector, only about 34.9 percent of employees are women and their participation is even lower in entrepreneurship and decision making roles.

- Progress in welfare coexists with persistent social inequalities

Migration has played a unique role in shaping Kerala's development. The large scale emigration of Malayalis to Gulf countries has led to high levels of remittances, which have in turn fuelled consumption and sustained the service sector. However, this remittance based development model has also led to new kinds of dependency. Many districts with high rates of emigration, like Malappuram, have seen improvements in household wealth and consumption patterns without corresponding improvements in industrialisation or job creation. The result is a paradox where money flows into households, but local economic activity remains low. This reliance on external income also makes the state vulnerable to global economic shocks, such as oil price fluctuations or disruptions in the Gulf job market. It further reinforces regional disparities, as districts with less emigration such as Idukki or Pathanamthitta do not benefit equally from remittance inflows.

- Remittances boost consumption but deepen economic dependency and disparities

Thus, the development pattern in Kerala, while progressive in many respects, displays clear signs of lopsidedness. There are persistent regional disparities in economic output and per capita income, structural imbalances in sectoral contributions, inequitable infrastructure distribution and social inequalities that affect marginalised communities disproportionately. While Kerala has succeeded in building a socially inclusive society with strong human development indicators, the challenge now lies in ensuring that its economic growth is both equitable and spatially balanced. To achieve this, policy makers must prioritise region specific industrial promotion,

- Kerala must address internal imbalances for truly inclusive growth invest in infrastructure in lagging districts, expand access to digital services and higher education and implement targeted welfare schemes for socially disadvantaged groups. Only by addressing these internal imbalances can Kerala transition from its present model to one of truly sustainable inclusive and development.

1.3.3 Human Development Issues in Kerala

- Past achievements remain strong, but new challenges demand attention

The state's human development success has often been attributed to decades of social sector investment, robust public health systems, progressive land reforms and high levels of female literacy. However, despite these achievements, Kerala continues to face a range of human development issues that reflect both emerging challenges and unresolved structural gaps. These concerns include persistent deprivation among marginalised communities, growing disparities in access to digital and higher education, the health demands of an ageing population and gender related inequalities in employment and technology.

- Kerala records lowest poverty but challenges remain

According to the Economic Review 2024, Kerala has the lowest Multidimensional Poverty Index (MPI) score in India, at just 0.002, with only 0.55 percent of its population classified as multidimensionally poor. This reflects the state's remarkable progress in reducing deprivation related to health, education and living standards. However, the report notes that certain socially and geographically vulnerable groups, such as Scheduled Castes (SC), Scheduled Tribes (ST), fisherfolk, artisans and potters, continue to live with significant levels of deprivation. These groups often lack secure housing, stable income and access to quality health and educational services. The state government has introduced targeted schemes like the Extreme Poverty Eradication Programme (EPEP) to address these challenges. A baseline survey conducted under the EPEP identified 64,006 extremely poor families, further classified into categories of deprivation such as food insecurity, lack of income, inadequate shelter and poor health access. This programme aims to ensure convergence of services by integrating efforts from different departments, enabling comprehensive support to the most vulnerable households.

In the field of healthcare, Kerala leads India with some of the best outcomes. As per the 2024 report, the infant mortality rate (IMR) in Kerala stands at 6 per 1,000 live births, compared to the national average of 28. The maternal mortality rate

(MMR) is 19 per one lakhs live births, significantly better than the national average of 97. The state also boasts a life expectancy of 75 years, the highest among all Indian states. These indicators reflect the strength of Kerala's primary health care infrastructure and the widespread access to health services. Yet, issues persist beneath the surface. Tribes and other marginalised communities living in remote and hilly areas have limited access to specialised health facilities. Moreover, urban slum dwellers, elderly populations, guest labourers and differently abled individuals face context specific vulnerabilities that are not adequately addressed by standardised health care services. The growing burden of non-communicable diseases (NCDs), mental health conditions and elderly care poses new challenges that demand policy innovation and increased public investment.

- Kerala tops health outcomes but disparities persist

Kerala's educational achievements are equally impressive. The literacy rate is above 94 percent and the female literacy rate among women aged 15 to 49 years is 97.4 percent, according to NFHS-5 data quoted in the 2024 review. School enrolment is nearly universal and drop out rates are minimal. However, as the state transitions into a knowledge based economy, newer challenges have emerged, particularly in the domains of digital literacy, skill development and higher education access. Many rural students continue to face difficulties in accessing digital tools and reliable internet, limiting their participation in online learning environments. Disparities remain in higher education enrolment, especially for students from SC / ST backgrounds and economically weaker sections. Recognising these challenges, the government has launched programmes such as 'Vidya Kiranam,' 'Pothu Vidyabhyasa Samrakshana Yajnam' and the 'Kerala Knowledge Economy Mission,' aimed at improving digital infrastructure, promoting innovation and ensuring equitable access to quality education and employment.

- Kerala excels in education but gaps remain

Gender inequality, while less severe than in many other states, still remains a concern. Kerala has a favourable sex ratio of 1,084 females per 1,000 males and nearly 22 percent of households are female headed, double the national average. Nevertheless, women continue to face disadvantages in employment and economic participation. The Economic Review 2024 reports that only 34.9 percent of organised sector employees in Kerala are women, indicating that many remain confined to informal sectors or unpaid care roles. There is also a gender gap in digital access and technical education,

- Kerala advances gender equity but challenges persist which can hinder women's full participation in the emerging knowledge economy. Initiatives such as 'Sthreepaksha Navakeralam,' 'Saranya and Snehitha Gender Help Desks' have been designed to address issues like domestic violence, economic vulnerability and the rehabilitation of survivors of abuse. These programmes are essential not only for gender justice but also for enhancing the state's human development.

- Kerala is experiencing a rapid ageing of its population

Another critical issue Kerala faces is the rapid ageing of its population. As of the latest estimates, nearly 15 percent of the population is aged 60 years and above, with projections indicating that this share will increase significantly in the coming decades. This demographic transition brings with it a set of economic and social challenges, including a shrinking labour force, increased dependency ratio and mounting pressure on the health care system and social welfare programmes. The state is already witnessing growing demand for geriatric care, palliative services and age friendly infrastructure. Without adequate planning and resource allocation, this trend may undermine the gains Kerala has made in human development.

- Kerala must deepen development through inclusive policies

While Kerala stands as a national and global leader in many aspects of human development, its journey is far from complete. The state's commendable performance in reducing poverty, improving health and ensuring basic education must now evolve to meet the challenges of inclusion, ageing, digital inequality and gender empowerment. The Economic Review 2024 clearly acknowledges these emerging and persisting issues, stressing the importance of targeted welfare schemes, policy convergence and district specific planning. For Kerala to sustain and deepen its human development achievements, it must invest not only in services but also in social and economic systems that empower its most vulnerable citizens.

1.3.4 Unemployment in Kerala

- Strong progress achieved but unemployment remains high

Unemployment is a persistent socio-economic issue in Kerala, despite the state's achievements in health, education and overall human development. Unemployment is defined as the condition where individuals willing and able to work are unable to find gainful employment. Unemployment in Kerala is a complex problem due to factors such as demographic transitions, skill mismatches, low industrialisation and sectoral imbalances. The Economic Review 2024 clearly reveals that while Kerala fares well in developmental indicators, the challenge of providing productive employment, especially to the educated and young population, continues to be a significant concern.

- Unemployment rate remains high with gender gap

According to the Periodic Labour Force Survey (PLFS) 2023 – 24, Kerala's overall unemployment rate (UR) based on the Usual Status (ps+ss) stands at 7.2 percent, which is more than double the national average of 3.2 percent. The rate is higher among females, at 11.6 percent, compared to 4.4 percent for males. The urban - rural divide is also evident. The rural unemployment rate among women is 12.1 percent, while among men it is 4.6 percent. In urban areas, the rate is 10.9 percent for women and 4.2 percent for men.

The Current Weekly Status (CWS), which captures short term unemployment over a seven day reference period, also gives a worrying picture. This is represented below.

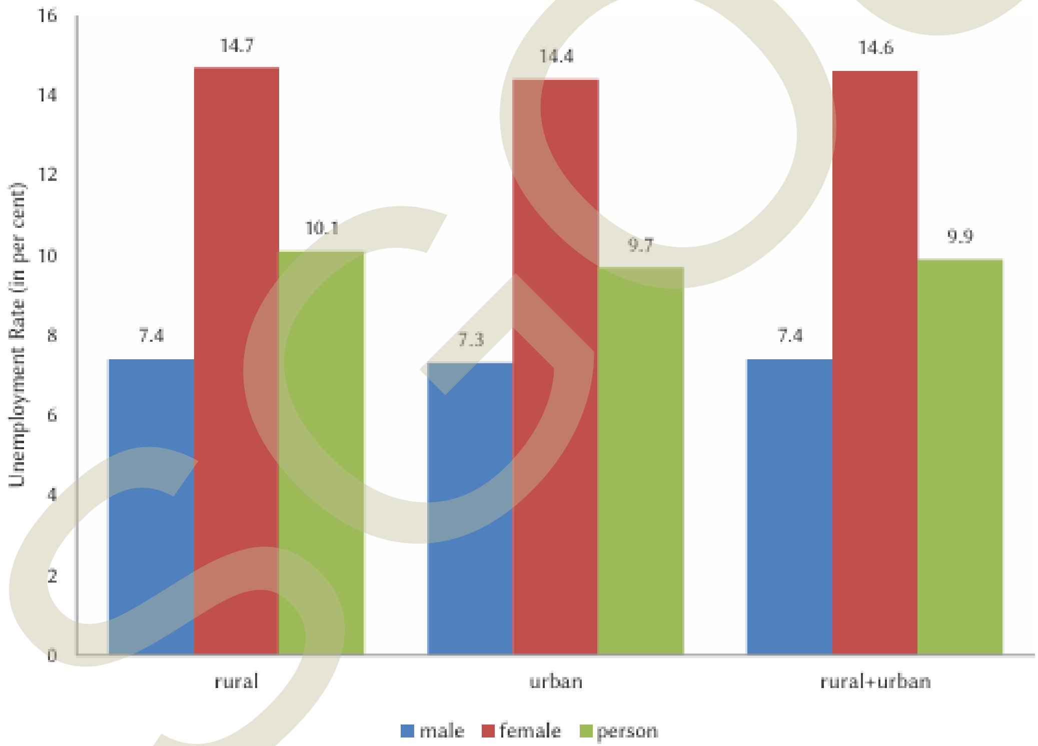

Fig 1.3.1 Unemployment rate in Kerala in 2023-24 as per CWS

Source: *PLFS report, 2023-24, GoI*

- Limited job opportunities reflected in high unemployment

According to the CWS, the total unemployment rate in Kerala (rural and urban) is 9.9 percent, with female unemployment at 14.6 percent and male unemployment at 7.4 percent. This is significantly higher than the all India rate of 4.9 percent. It highlights the relatively limited availability of short term employment opportunities in the state.

- Youth unemployment alarmingly high, especially among females

Youth unemployment is particularly acute in Kerala. For persons aged 15 to 29 years, the unemployment rate in the state is 29.9 percent, compared to the national average of 8.5 percent. Within this, the situation of female youth is even more severe; 56.6 percent in rural areas and 37 percent in urban areas, against 22.2 percent and 15.9 percent respectively for males.

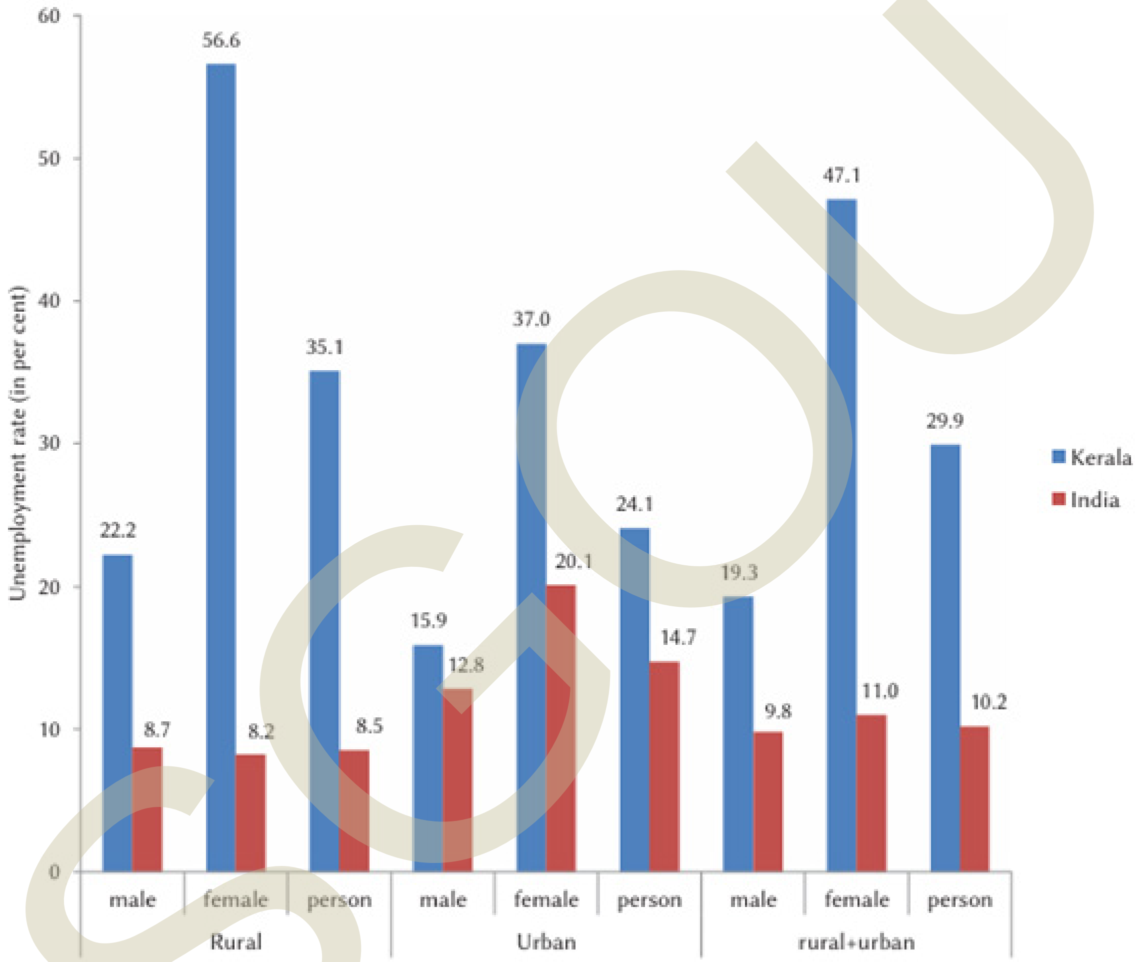

Fig 1.3.2 Youth Unemployment Rate (15-29 Years) in Kerala vs India (2023-24, Usual Status)

Source: *PLFS report, 2023-24, GoI*

This alarming youth unemployment rate reveals a deep mismatch between the aspirations and qualifications of Kerala's young workforce and the job opportunities available within the state.

Educated unemployment is another critical dimension. For persons aged 15 and above with education levels of secondary school and above, the unemployment rate in Kerala was 12.3

- High educated unemployment persists, especially among women

percent in 2023 – 24. This is higher than the national average of 7.1 percent. In rural Kerala, it stands at 14.1 percent and in urban areas, at 10.4 percent. Among educated urban females, the unemployment rate is particularly high at 13.3 percent, which shows both a lack of suitable jobs and barriers to female workforce participation.

- Female workforce participation remains relatively low

The Labour Force Participation Rate (LFPR) and Worker Population Ratio (WPR) also reveal important structural patterns. Kerala's female LFPR is 33.4 percent, higher than the all India average of 31.7 percent, still significantly lower than that of men. More notably, Kerala's female WPR in the age group of 15 – 59 years is 39.6, compared to 43.7 at the national level. This implies that while women in Kerala are more educated and healthier, their actual economic participation is still limited.

- Employment schemes generate jobs through village industries

Despite these challenges, Kerala has implemented various employment promotion schemes. Under the Khadi and Village Industries Board, initiatives like the Special Employment Generation Programme (SEGP) and Prime Minister's Employment Generation Programme (PMEGP) created 3,522 employment opportunities in 2023 – 24. Moreover, through 843 village industries, a total project investment of ₹2,872.90 lakhs was made, generating 1,368 new jobs. Additionally, Kerala's Niyukthi Mega Job Fairs, started in 2015, continue to serve as an important platform for connecting employers and job seekers, though only one job fair was conducted in 2023 – 24.

- Kerala supports unemployed through self-employment schemes

The government also provides unemployment allowances and self employment support schemes. In 2023, ₹46.6 lakhs was distributed to 5,415 beneficiaries under the unemployment assistance programme. As of August 2024, ₹14.4 lakhs was distributed to 2,019 beneficiaries. Moreover, schemes like the Kerala Self Employment Scheme for the Registered Unemployed (KESRU), the Multi Purpose Service Centres /J ob Clubs (MPSC / JC), the Saranya Self-Employment Scheme for Women and the Navajeevan Rehabilitation Programme disbursed over ₹834.2 lakhs to promote self employment in 2024.

Another structural issue is the stagnation in organised sector employment. The organised sector in Kerala includes both the public sector (government owned institutions) and the private sector (businesses and companies owned by individuals or groups). In recent years, private sector employment in Kerala has generally shown a rising trend. It increased steadily up to the year 2020, dropped slightly in 2021, likely due to the impact of the COVID-19 pandemic, but has continued to grow again afterwards. As of the year 2024, a total of 12.6 lakhs people were employed in Kerala's organised sector. Out of this, 5.6 lakhs workers, which is about 44.4%, were employed in the public sector, while the remaining 7 lakhs workers, or 55.5%, were working in the private sector. This is illustrated in figure 1.3.3. This shows that more people are now working in private companies than in government jobs. On the other hand, public sector employment has remained more or less the same since 2016, showing signs of stagnation. This shift suggests that the labour market in Kerala is gradually becoming more dependent on private sector opportunities for employment.

- Organised employment shifts towards private sector

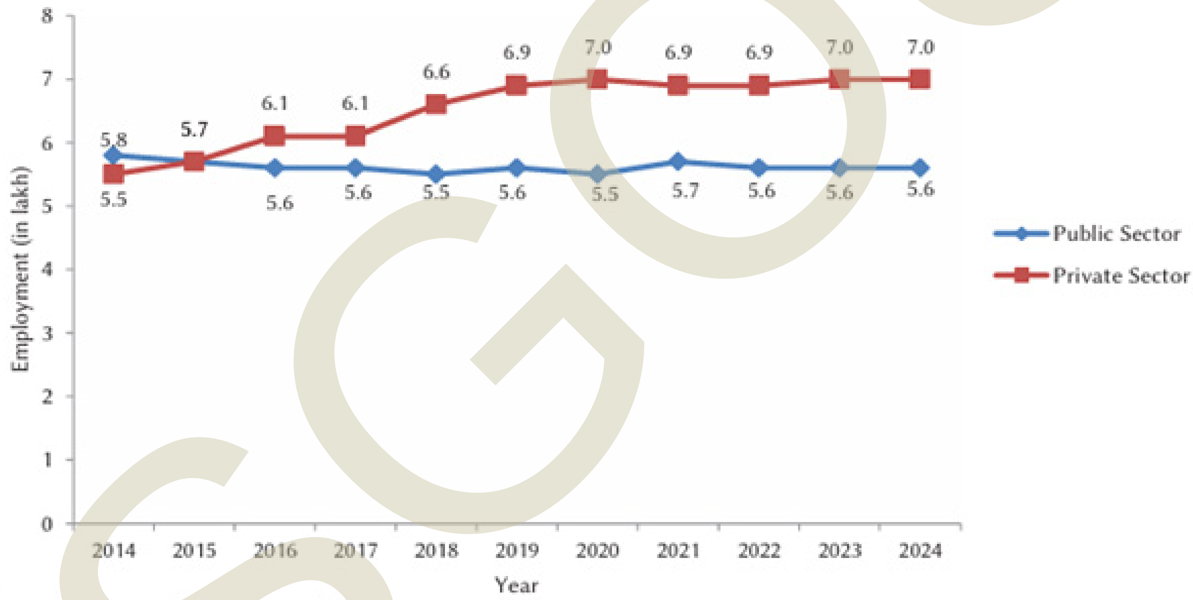

Fig 1.3.3 Employment in the organised sector in Kerala (in lakhs)

The unemployment in Kerala remains a serious structural challenge despite high levels of human development. The state suffers from high rates of youth, educated and female unemployment, even as it maintains better than average social indicators. Addressing this will require diversification of the economy, strengthening of the manufacturing and knowledge sectors, expansion of vocational education and skilling and enhanced female labour force participation. The Economic

- High unemployment persists despite strong human development

Review 2024 makes it clear that while Kerala has laid the groundwork for a well educated and healthy workforce, the challenge ahead lies in creating the right mix of policies and investments to translate these human capital advantages into widespread and equitable employment opportunities.

1.3.5 Poverty

- Kerala's inclusive model significantly reduced poverty

Kerala has carved out a unique path in tackling poverty, setting itself apart from many other Indian states through a combination of inclusive policies, high human development indicators and effective social interventions. The state adopted a distinctive development model that emphasised universal access to education and healthcare, land reforms, democratic decentralisation, women empowerment and an extensive social security network. These structural interventions have played a pivotal role in reducing absolute and multidimensional poverty across both rural and urban regions of the state.

- Kerala leads India in reducing multidimensional poverty

According to official statistics, Kerala's absolute poverty ratio has shown a dramatic decline over the past four decades. In 1973-74, nearly 59.8% of the population lived in poverty. This figure dropped to 11.3% by 2011-12, significantly outperforming the all-India average in poverty reduction. While data gaps remain for the most recent years, Kerala has been ranked as the state with the lowest multidimensional poverty in the country, according to NITI Aayog's first Multidimensional Poverty Index (MPI) Report in 2021. The state recorded only 0.71% of its population as multidimensionally poor, a figure which dropped further to 0.55% in the latest MPI Progressive Review 2023, covering the period 2015-16 to 2019-21. In the 2023 report, Kerala's MPI score stood at an impressive 0.002, showing extremely low deprivation across the dimensions of health, education and standard of living.

- Shows minimal deprivation, with regional disparities

Multidimensional poverty is a more comprehensive way of measuring poverty compared to income based definitions. It considers indicators such as nutrition, years of schooling, child and adolescent mortality, access to electricity, clean drinking water, sanitation, cooking fuel and housing conditions. Kerala scored exceptionally well across nearly all these indicators. For example, deprivation due to child and adolescent mortality was just 0.19%, maternal health 1.73%, years of schooling 1.78%, school attendance 0.3% and sanitation 1.86%. Only a very small share of households was found to lack basic facilities such as bank accounts, nutrition and proper housing.

Among districts, Kottayam emerged as the best performer with zero multidimensional poverty, while Wayanad recorded the highest at 3.48%, indicating the presence of some regional disparities.

- Strong economy and social indicators curb poverty

Kerala's success in poverty reduction has been further supported by strong economic indicators. The state's per capita Gross State Domestic Product (GSDP) at constant prices for 2023–24 was ₹1,76,072, which is significantly higher than the national average of ₹1,24,600. This indicates that the average income of a person in Kerala is well above the Indian average, contributing directly to improved living standards and poverty alleviation. Alongside income growth, the state's literacy rate of 94%, infant mortality rate of just 6 per 1,000 live births and life expectancy of about 75 years have helped strengthen long term human development, preventing the transmission of poverty from one generation to the next.

- Welfare focus ensures inclusive and gender-sensitive development

Kerala's welfare oriented approach includes a wide range of schemes for social protection. As of 2023 – 24, more than 50.4 lakhs people in the state received social security pensions, each amounting to ₹1,600 per month. Notably, about 63% of these beneficiaries are women, demonstrating Kerala's commitment to gender sensitive development. In addition, targeted schemes for marginalised groups such as Scheduled Castes (SCs), Scheduled Tribes (STs), fisherfolk, potters and artisans have helped address the persistent pockets of poverty within these communities. For instance, in 2023 – 24, the government distributed ₹127.6 crores to 3,340 landless SC families to enable land ownership. Under the LIFE Mission, a total of 4.08 lakhs houses have been constructed, including homes for 1.1 lakhs SC families and 42,363 ST families, ensuring decent shelter for the poorest sections.

- Employment and food security strengthen anti-poverty efforts

Employment generation has also been a key tool in Kerala's poverty strategy. Programmes such as the Ayyankali Urban Employment Guarantee Scheme (AUEGS) have created nearly 27 lakhs person-days of work in 2023 - 24, offering financial security to urban poor households. Similarly, the state's Public Distribution System (PDS) plays a crucial role in ensuring food security. Over 13.42 lakhs metric tonnes of food grains were distributed through more than 14,000 Fair Price Shops during the same period, ensuring affordable access to essential goods even for non priority and lower income families.

Despite Kerala's achievements, some challenges remain. Multidimensional poverty, though minimal at the aggregate level, still exists in certain vulnerable regions and communities. These include remote tribal areas, coastal fishing villages and settlements of potters and artisans. To address these remaining gaps, the Government of Kerala launched a large scale initiative known as the Extreme Poverty Eradication Programme. This programme began with a state wide survey to identify households experiencing multiple deprivations especially in food, income, health and shelter. The Commissionerate of Rural Development led the process, beginning with 1.18 lakhs nominated households, of which 64,006 households (1,03,099 individuals) were eventually identified as extremely poor after rigorous verification. Of these, 75% belonged to the general category, with 20% SC and 5% ST households. The largest number of extremely poor households was in Malappuram (13.4%), followed by Thiruvananthapuram (11.4%), while Kottayam recorded the lowest with just 1,071 families.

- Special programme helps poorest families in need

Fig 1.3.4 District Wise Break up of Number of Extreme Poor Families Identified in The State

Source: *EPIP cell, Rural Development Department, Kerala.*

To eradicate extreme poverty completely, the government has adopted an integrated approach, combining the efforts of multiple development agencies, Local Self Governments (LSGs) and state departments. These efforts include linking the extremely poor households to existing welfare schemes, improving access to basic services and creating personalised action plans for economic upliftment.

- Government joins hands to help poorest families progress

1.3.6 Gender Gap

- Gender gaps remain despite progress

Kerala has long been regarded as a progressive state in India when it comes to gender equality, yet important dimensions of the gender gap persist in economic participation, political representation and access to new age skills. The concept of a gender gap refers to the disparities between men and women in various areas such as education, employment, income, health and political participation. These differences are not only indicators of social inequality but also have significant implications for economic development, labour productivity and inclusive growth.

- Better literacy and sex ratio reflect gender progress

As per the Global Gender Gap Report 2024 by the World Economic Forum, India ranked 129 out of 146 countries, showing deep national disparities. However, Kerala presents a contrasting picture within the country. The State records a sex ratio of 1,084 females per 1,000 males, which is the highest among Indian states and reflects a strong demographic balance. In terms of literacy, Kerala has a female literacy rate of 92%, with the NFHS-5 (2019-20) reporting that 97.4% of women aged 15 - 49 years are literate. This high level of educational attainment has helped to reduce the gender gap in schooling and access to higher education.

- More women now lead in higher education enrolment

The gender parity in education is further evident in the enrolment figures in higher education. Girls constitute a majority in various professional courses - 65.3% in undergraduate and postgraduate Arts and Science colleges and over 80% in health related courses such as Homeopathy (89%), Ayurveda (86%) and Dental studies (84%). This clearly shows that the gender gap in educational attainment has narrowed and women are actively participating in knowledge based sectors.

- Women face low job participation and wage gaps

Despite these achievements, the gender gap in labour force participation remains significant. The Worker Population Ratio (WPR) for women in Kerala was 29.5% in 2023-24, showing an improvement from 20.4% in 2018-19, but still considerably lower than the male WPR of 56.5%. This disparity is more pronounced in rural areas and among women with higher educational qualifications, indicating a mismatch between education and employment. Furthermore, the wage gap between men and women remains wide. In rural areas, women earn an average of ₹301.8 per day compared to ₹698.2 for men, while in urban areas, women earn ₹585.4 versus

₹825.3 for men. These figures underline the continuing gender wage disparity, despite legal provisions for equal pay.

- Women's political representation higher in local bodies

Political participation represents another area with a mixed picture. In Kerala's Local Self Government (LSG) bodies, 54% of elected representatives in 2020 were women, primarily due to the implementation of reservation policies. However, women's representation in the Kerala Legislative Assembly remains under 10%, revealing the persisting gender gap in decision making roles at higher levels of governance. This points to the limitations of political empowerment beyond local bodies.

- Kerala's gender violence lower, yet causes concern

Gender based violence is another indicator where Kerala shows relatively better, yet still concerning, figures. According to NFHS-5, 9% of women have experienced physical violence and 1% report sexual violence. These statistics, though lower than the national average, still indicate the prevalence of gender based vulnerabilities, which can significantly restrict women's mobility, economic independence and psychological well being.

- Rural digital gender gap hinders women's empowerment

An emerging dimension of the gender gap is the digital divide, especially in rural areas. While Kerala is a front runner in e-governance and digital infrastructure, access to digital skills and computer literacy among women, especially those from economically weaker backgrounds, remains low. Bridging this divide is essential for enabling women to participate in the modern economy, particularly in sectors like IT and e-commerce.

- Kerala promotes women's welfare through gender budgeting

Kerala's government has taken proactive steps through gender budgeting to reduce these gaps. In the 2024-25 Annual Plan, a total of ₹4,670.2 crores, which is 21.1% of the total Plan out lay, was ear marked for women-specific and women-benefiting schemes. These include support for women entrepreneurs, education, health care, social security and schemes for transgender persons like "Mazhavillu." Programmes such as Kudumbashree and SHE Starts have also played a pivotal role in creating micro-enterprises and promoting financial independence among women.

We can say that Kerala has achieved impressive progress in reducing the gender gap in education, health and local governance. However, significant challenges remain in the areas of employment participation, income equality, political

- Kerala progresses, but gender gaps still hinder development

representation at higher levels and digital empowerment. From an economic stand point, bridging these gender gaps is crucial for achieving inclusive and sustainable development, improving the rate of participation in the labour force and enhancing human capital productivity.

1.3.7 Nava Kerala Mission

- Nava Kerala Mission promotes inclusive, sustainable development

The Nava Kerala Mission, formally launched in November 2016 by the Government of Kerala, is a transformative, mission mode initiative aimed at building a socially inclusive, economically productive and ecologically sustainable State. Conceived as a convergence platform for high impact development programmes, it seeks to accelerate Kerala's human development achievements while ensuring long term, equitable and sustainable economic growth. The mission integrates four flagship development programmes viz; Aardram Mission (healthcare), Haritha Keralam Mission (environmental sustainability), LIFE Mission (housing and livelihood) and Pothuvidyabhyasa Samrakshana Yajnam (education reform), which was later renamed Vidyakiranam.

- LSGs drive inclusive growth through social infrastructure

Nava Kerala Mission operates through local self governments (LSGs), promoting community participation, demand responsive planning and efficient public service delivery. It is grounded in the recognition that quality social infrastructure, especially in health and education is not only a social goal but also a critical input for economic development and productivity enhancement.

- Enhanced primary healthcare strengthens public health

Under the Aardram Mission, a key component of the Nava Kerala framework, the State undertook the massive transformation of its primary healthcare system. By 2023-24, 649 Primary Health Centres had been upgraded to Family Health Centres (FHCs), equipped with extended outpatient hours, modern lab facilities and mental health services. Programmes like Sampoorna Manasika Arogyam, ASWASAM depression clinics and SWAAS COPD (Step Wise Approach to Airway Syndromes Chronic Obstructive Pulmonary Disease) control programme demonstrate Kerala's shift from curative to preventive care. These efforts underpin the State's superior health indicators, such as an infant mortality rate of 6, maternal mortality ratio of 19 and life expectancy of 75 years, all significantly better than the national average. These indicators reflect how public health investment enhances both human capital and economic efficiency.

- Education reforms boost labour quality and knowledge economy

The Vidyakiranam Mission (formerly Pothuvidyabhyasa Samrakshana Yajnam) focusses on revitalising Kerala's public education system. According to the Economic Review 2024, 99.8% of government schools have access to drinking water and all schools have functional sanitation infrastructure. Digital tools have been widely integrated and AI education das been introduced at the Class 7 level, with 80,000 secondary school teachers receiving AI training. Kerala's Gross Enrolment Ratio (GER) in higher education is 41.3 and the State has witnessed impressive performance in national and international academic rankings. These educational reforms significantly enhance Kerala's labour quality and support its transition into a knowledge economy.

- Green initiatives promote sustainability, circular economy, local jobs

In terms of environmental sustainability, the Haritha Keralam Mission has focused on waste management, organic farming, water conservation and greening of public spaces. The campaign for Net Zero Carbon Kerala, part of this mission, aims to make selected local bodies carbon neutral by 2050. Initiatives such as 'Ini Njan Ozhukatte' for stream rejuvenation and the formation of Haritha Karma Senas for decentralised waste management embody the principles of the green economy and circular resource use, addressing ecological externalities while creating local employment.

- Affordable housing and employment drive poverty reduction in Kerala

The LIFE Mission (Livelihood, Inclusion and Financial Empowerment) addresses one of the core dimensions of poverty, i.e., housing. As of August 2024, the Mission had constructed 4.08 lakhs of houses for landless and homeless families, including 1.1 lakhs SC and over 42,000 ST beneficiaries. These efforts support Kerala's outstanding performance in the NITI Aayog's Multidimensional Poverty Index (MPI) 2023, where the State scored just 0.002, the lowest among all Indian states. The mission is also linked to employment generation schemes, such as the Ayyankali Urban Employment Guarantee Scheme, which generated 26.89 lakhs person-days of work in 2023-24, enhancing the aggregate demand and providing livelihood security to the urban poor.

- Inclusive planning boosts productivity, equity and gender budgeting

From an economic policy perspective, Nava Kerala Mission strategically channels plan expenditure towards sectors that generate positive externalities, improve Total Factor Productivity (TFP) and reduce inequality and exclusion. Its decentralised design promotes allocative efficiency, while the mission's integration with Kerala Infrastructure Investment Fund Board (KIIFB) ensures sustained capital investment.

Nava Kerala Mission to achieve social progress and economic development

In the 2024 – 25 Annual Plan, over ₹4,670 crores or 21.1% of total outlay, was allocated to women specific and gender responsive schemes, demonstrating the mission's attention to inclusive and gender sensitive budgeting.

In short, the Nava Kerala Mission is a model for how states can use careful planning and community involvement to achieve both social progress and economic development. It proves that development is the most successful when it is people centred, inclusive and built on strong public systems.

Summarised Overview

Kerala stands out as a leader in human development in India, with high literacy rates, strong health care and low poverty levels. However, the state faces challenges like high youth unemployment, especially among educated women and an over reliance on remittances from abroad. While urban areas like Ernakulam thrive, rural and tribal regions lag behind in economic growth and infrastructure. Kerala's economy is heavily dependent on the services sector, with limited industrial and agricultural growth, creating imbalances. Efforts like the Kerala Knowledge Economy Mission aim to create jobs and bridge the skills gap, but the state must diversify its economy and improve job opportunities to sustain its development model.

Despite its achievements, Kerala struggles with uneven development, gender gaps in employment and an ageing population. While women excel in education, they face lower wages and fewer job opportunities compared to men. The Nava Kerala Mission addresses these issues through initiatives in health care, education, housing and environmental sustainability, focussing on inclusive growth. Programmes like LIFE Mission and Haritha Keralam aim to reduce poverty and promote green development. Kerala's success lies in its people centred approach, but it must continue to tackle unemployment, regional disparities and gender inequality to ensure long term progress.

Assignments

1. Evaluate the concept of lopsided development using Kerala's district-level economic data.
2. Discuss the trends in youth and educated unemployment in Kerala.
3. Explain the multidimensional aspects of poverty in Kerala as per recent data.
4. Assess the gender gap in employment and the role of gender focussed policies.
5. Analyse the objectives and outcomes of the Nava Kerala Mission.

Reference

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Suggested Reading

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2. Kurien, C. T. (1995). *Global Capitalism and the Indian Economy*. Orient Longman.

3. Devika, J. (2016). *The Kerala Model in the Time of Hindutva.* Economic and Political Weekly, 51(46).

4. Ministry of Statistics and Programme Implementation (MoSPI), GoI. (2024). *PLFS* Annual Report.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

BLOCK 2

Performance of Kerala Economy

UNIT 1 Agriculture Sector and Emerging Challenges

Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend the extent of the agriculture sector in Kerala
- analyse the agrarian crisis
- evaluate the effects of globalisation on agriculture
- assess the impact of climate change on agriculture

Background

Historically, agriculture has been a crucial sector in Kerala's economy, providing a means of livelihood for a substantial portion of the population and the foundation for the state's food security and rural stability. Following India's independence, Kerala implemented substantial land reforms focussed on eliminating landlordism, redistributing land to those who cultivate it and safeguarding the rights of the tenants. These reforms, some of the most progressive in the country, played a significant role in creating a more equitable landholding pattern and social transformation. Over the years, changes in land use and agricultural practices have become noticeable as farmers have moved away from food crops to more profitable cash crops such as rubber, pepper and coconut. Agriculture has become more susceptible to price fluctuations and external disturbances due to market pressures and policy motivations. The rise of globalisation shows both benefits and obstacles for Kerala's agricultural industry. Climate change has also become a major issue. The effect of these changes on Kerala's agriculture is discussed in this unit.

Keywords

Agriculture, Land Reforms, Cropping Patterns, Land Use patterns, Climate Change, Globalisation

Discussion

- Agriculture remanins vital for Kerala's security

- Agricultures's share in kerala SDP declining Consistently

2.1.1 Agriculture Sector

The agricultural sector in Kerala has experienced significant and distinctive transformations over the past decades. From a traditionally agrarian economy, the state has witnessed a gradual decline in the relative importance of agriculture, both in terms of employment and contribution to income, giving way to a growing emphasis on the service and industrial sectors. Despite these changes, agriculture remains a vital contributor for ensuring food security and sustaining rural livelihoods.

According to the Kerala Government's Department of Economics and Statistics, in 1960-1961, the agriculture and allied activities sector accounted for 54.97% of the sectoral State Domestic Product (SDP)at current prices. Initially, the share fell to 20.82% during the early stages of economic reforms. By 2015-2016, it had declined further to 10% at current prices. However, in 2023 – 2024, there was a slight rise, with agriculture contributing 18.2% to India's GDP at current prices. The evidence suggests that the share of agriculture and allied sectors within the overall State Domestic Product has been declining consistently. Table 2.1.1 shows the annual growth rate in Gross Value Added for the agriculture and allied sectors in Kerala from 2014-15 to 2023-24.

Table 2.1.1 Growth Rate of Agriculture and Allied Sectors

Year	Growth Rate Per Annum in Kerala (%)
2014-15	0.02
2015-16	-5.1
2016-17	-0.65
2017-18	2.1
2018-19	-2.09
2019-20	-2.56
2020-21	1.58
2021-22	4.12
2022-23	0.47
2023-24	4.65

Source: Directorate of Economics and Statistics, Government of Kerala

This declining role of agriculture is further highlighted by NITI Aayog, which reports that while 27.3% of Kerala's population is engaged in agriculture, forestry and fishing, their contribution to the Gross State Value Added (GSVA) is only 10.84%. Rising prices of fertilizers and herbicides, gradual reduction in subsidies and increased labour costs have added to the burden on farmers. Additionally, Kerala faces an absolute cost disadvantage compared to neighbouring states, prompting a shift from food crops to cash crops. Other factors such as low Minimum Support Prices (MSP), lack of effective marketing mechanisms, absence of agripreneurship and minimal value addition further weaken the sector.

- Rising cost for agriculture

Despite institutional land reform measures, land inequality persists. Although ownership was transferred to tenants, the reforms did not adequately address the needs of Dalits and Adivasis. Studies suggest that while the reforms reduced inequality, they did not eliminate it and land ownership continues to determine social mobility for marginalised groups. Moreover, the post-reform period witnessed stagnation in agricultural production, as the dominance of small and marginal holdings limited the efficiency and productivity compared to larger farms.

- Land reforms reduced inequality

2.1.2 Land Reforms in Kerala

The first elected Communist Government in Kerala initiated the process of introducing land reforms. The government enacted the Land Reforms Ordinance, which was subsequently converted into an Act. The Agrarian Relations Bill, which was initially introduced in 1957, was ultimately passed after undergoing minimal revisions. Following the initial bill, subsequent amendments were enacted in the years 1960, 1963, 1964 and 1969. The landmark historical Land Reform Act, which abolished the feudal system and guaranteed the rights of tenants to land, commenced on 1st January 1970. The primary goals of the land reforms act can be summarised as: implementing a land ceiling, redistributing excess land to landless agricultural workers, terminating the old feudal system by granting peasants the right to own the land they till, abolishing exploitation and disparities in the agriculture sector, providing tenants with ownership of land to ensure sustained progress and social transformation and attaining economic development and modernisation. Some of the major land reforms are discussed below.

- Land reforms abolished feudalism, redistributed land

- Reducing land ownership disparity

a. **Land Reforms and Land Holding Sizes:** One of the goals of land reform was to narrow the disparity in land distribution by redistributing land, as it had long been controlled by landlords. Farm workers had no claim to the land they were cultivating. Land reform aimed to address the disparities in land ownership by transferring it to the peasants. A nationwide shift towards land reforms prompted several states to implement reforms, thereby altering the existing agrarian relationships. In certain States, it led to a narrowed disparity in land ownership distribution. Land reform changes are not implemented uniformly because the State is responsible for this task. States such as Kerala and West Bengal have made commendable progress in implementing it effectively, whereas several other states are falling behind. Implementing land reform effectively narrowed the disparity in land distribution across major states.

- Land reform enabled social transformation

b. **Elimination of Traditional Tenancy:** Social change was facilitated in Kerala through land reform, resulting in the abolition of all forms of tenancy. This process effectively transformed the rural society by modifying property structures and production relationships, thereby redistributing power and privilege to the rural poor. The traditional farming relationship underwent a significant transformation and the relationship between landlords and tenants in society ceased to exist. This movement played a crucial role in transforming traditional agrarian relations by granting tenants the right to cultivate their land free from rental obligations and the threat of displacement, ultimately resulting in an improvement of the social standing of traditional tenant groups. The Kerala Land Reforms Act granted permanent tenure, thereby conferring ownership rights upon the farmers. The majority of these farmers, who were from the lower middle class, then cultivated their land intensively to support themselves and generate a significant amount of surplus produce for the market.

c. **Transition of Cultivators to Non-Cultivators:** Land reform was a key factor behind the social transformations in Kerala over the last four decades of the twentieth century. This shift from tenants to landowners led to the emergence of a new category of work force with improved social standing. The second generation of the traditional cultivators showed a reluctance to focus on farming, prompting them to seek employment outside of agriculture. The ratio of agricultural labourers and cultivators within the total work force has declined, as illustrated in Table below.

Table 2.1.2 Distribution of Workers in Kerala
(in Percentage)

Categories of Work	**1951**	**1961**	**2001**
Cultivators	23.22	20.92	7.20
Agricultural Labourers	25.57	17.38	16.07
Housing, Industry workers	4.71	8.6.	3.54
Others (Livestock, Mining, Forestry, Fishing, Plantation, quarry and allied activities	46.50	53.02	73.19

Source: Census Report, Dept. of Economics and Statistics, 1998

- Decline in the agricultural work force

The proportion of farmers in the work force declined from 23.22 per cent in 1951 to 7.20 per cent in 2001. Meanwhile, the share of agricultural workers within the working population decreased from 25.57% in 1951 to 16.07% in 2001. Within this timeframe, the proportion of workers in the housing industry decreased from 4.71 percent to 3.54 percent.

- Land reform reduced inequality

The land reform programme was aimed at achieving social and economic goals. The primary social goal was to narrow the disparity in land distribution by implementing a land ceiling and reallocating excess land to individuals without land holdings. The economic objective was to create a better environment for increasing agricultural production. This was achieved by eliminating exploitative practices and granting farm labourers secure land rights and ownership. Land reforms in Kerala contributed to closing the disparity in distributiing land holding size relative to other major Indian states.

- Land reforms caused laobour shortages and cultivation challenges

In addition to the positive outcomes, land reforms resulted in some adverse consequences. Members of the modernised peasant class are no longer engaged in farming, primarily due to their economic self-sufficiency and uplifted social standing.A labour shortage resulting from the created situation compelled farmers to leave paddy fields unused or to cultivate crops requiring less labour. Two distinct groups have emerged: individuals who possess land but are reluctant to cultivate it and those who possess the necessary labour and skills but lack sufficient land to cultivate. This led to a beneficial circumstance in leasing land for agricultural use. Mechanisation should have been introduced by the government to address the problems caused by a labour shortage during the implementation of land reforms.

2.1.3 Agrarian Crisis

Kerala, once well known for its strong farming sector, is now going through a deep and serious agricultural crisis. Even though the state made great progress in land reforms and rural development in the past, farming has slowed down and declined in recent years. Some of the major problems are explained below.

1. The declining contribution of agriculture to the State Domestic Product (SDP) has raised concerns regarding the long term sustainability of Kerala's development, which has largely been driven by the expansion of the service sector and reliance on foreign remittances.
2. Another important challenge is the reduction in the area devoted to paddy cultivation, particularly in a state that meets only 16 percent of its total demand of rice through domestic production.
3. At first glance, the transition towards commercial, cash and plantation crops appears to align well with the reform agenda and is seen as a positive development. However, an overdependence on these crops in the state has led to several critical challenges, including unsuitable agro-climatic conditions, imbalance between production and demand, sharp fluctuations in market prices, lack of stable markets for produce and insufficient infrastructure for processing and value addition.
4. The state continues to face a fundamental challenge in the form of low yields across both food and non-food crops. This situation brings to light several concerns regarding the technologies currently in use, particularly their appropriateness, accessibility for farmers, cost efficiency and environmental sustainability.
5. Access to credit plays a vital role in fostering investment in agricultural infrastructure and enhancing productivity. However, a decline in cooperative credit, policy shifts by commercial banks that place less emphasis on agricultural lending, the practice of issuing farm loans under the guise of gold loans and the frequent diversion of such funds for non-agricultural uses have collectively

led to a significant drop in the credit utilised for farming activities.

6. The unscientific use of NPK fertilisers remains a significant concern. Conducting soil tests is the essential first step toward proper application of fertilizers, yet only around 10 percent of farmers carry out soil testing before using fertilisers.

- Agriculture sector needs reforms for sustainable recovery

7. In recent years, the proportion of irrigated land within the state's total cropped area has shown little to no growth, highlighting the persistence of insufficient infrastructure for irrigation.

8. In a state where cash, commercial and plantation crops dominate agriculture, an effective way to address price fluctuations is through improved processing and value addition.

9. Enhancing the state's contribution to agricultural exports is possible only by making its agricultural sector competitive at the global level.

Despite the current stagnant and challenging state of agriculture, there remains significant potential for improvement if the government adopts and effectively implements well timed and appropriate strategies with proper monitoring.

2.1.4 Land Use Pattern in Kerala

The land use pattern in Kerala is presented in the table below.

Table 2.1.4.1 Pattern of Land Utilisation in Kerala (in Hectares)

Classification	1980-81	1990-91	2000-2001	2005-2006	2010-11	2015-16	2020-21
Total geographical area	3,885,497	3,885,497	3,885,497	3,886,287	3,886,287	3,886,287	3,886,287
Land put to non-agricultural use	269,824	297,381	381,873	370,322	384,174	434,646	460,919
Total cropped area as a percentage of total geographical area	74.24	77.72	77.76	76.84	68.12	67.61	52.3

Source: Department of Economics and Statistics, Government of Kerala

Since 1990, a significant decrease has been observed in the gross cropped area. The primary cause is the transition of farmers from agricultural activities to non-agricultural pursuits. Between 1980-1981 and 1990-1991, the land area used for non-agricultural purposes rose from 269,824 hectares to 297,381 hectares, representing a net increase of 27,557 hectares and a percentage change of 10.21 over the decade. The growth rate was 28.41% from 1991 to 2001 and 13.81% from 2001 to 2016. Land put to non-agricultural use has steadily increased, rising from 269,824 ha (1980-81) to 460,919 ha in 2020-21, indicating intensified urbanisation and land conversion. The total cropped area as a share of geographic area has declined significantly from around three-quarters in 1980s and early 2000s to just 52% in 2020-21. There is a notable rise in the land area being utilised for non-agricultural purposes. This trend can be attributed to several factors; primarily the fact that agricultural operations have become unprofitable due to rising input costs, a stagnant output price and the disadvantages associated with large scale production. A notable feature is the substantial shift in the cropping pattern that is skewed towards cash crops.

- Shift from farming to non-agriculture

2.1.5 Cropping Pattern in Kerala

Over the past six decades, Kerala has witnessed notable shifts in its cropping pattern. The following section seeks to examine the trends in the area under cultivation, production levels and productivity of the state's major crops. Broadly, crops in Kerala can be categorised into food and non-food crops. Food crops include cereals and millets, sugar crops, spices and condiments, fresh fruits, vegetables and related produce. Non-food crops primarily consist of rubber, betel leaves, lemon grass and similar crops. Crops can also be classified based on their duration into seasonal, annual and plantation crops. Seasonal crops such as paddy, pulses, tapioca, vegetables, sweet potatoes, tubers, groundnut, ginger, turmeric, cotton, tobacco, onion and tur are typically harvested within a short period. Annual crops such as sugarcane, banana, plantain, pineapple and betel leaves take longer to mature but are grown within a year. Plantation crops, which require more time to grow and yield over several years, include coconut, areca nut, cashew nut, mango, jackfruit, tamarind, pepper, rubber, tea, coffee, cardamom, cloves, nutmeg, cinnamon, cocoa and papaya.

- Cropping patterns shifted across food and non-food crops

2.1.5.1 Trends in Area, Production and Productivity of Food Grains

- Rice dominated cropping pattern

According to the Department of Economics and Statistics, Government of Kerala, rice holds a dominant position among food grains cultivated in the state. The districts of Palakkad, Ernakulam, Thrissur, Alappuzha, Wayanad and Malappuram account for nearly 73% of the total rice cultivated area. However, food crops together occupy only 10.32% of the state's total cropped area.

- Long term decline in food grains

Rice production showed a rising trend between 1960-61 and 1975-76. But from the mid-1970s onwards, production began to decline steadily. Other food grains, such as jowar and ragi, followed a similar downward trend. The share of food grains in the total cropped area fell significantly from 38.73% in 1960-61 to just 10.32% by 2013-14. A slight resurgence was seen in 2013-14, largely due to higher production of rice and tapioca, but this was primarily driven by improvements in productivity rather than an expansion of cultivated area.

- Kerala;s food grain sector shows long-term decline

During 2020-21, rice continued to dominate, but at a much smaller scale compared to the previous decades. The area under rice cultivation was only 2.30 lakh hectares, with a production of 0.231 million tonnes and a productivity of 1,431 kg / ha. Other cereals like jowar have virtually disappeared, with cultivation reduced to just 231 hectares, yielding 204 tonnes at 883 kg / ha. Pulses remain marginal, covering only 1,981 hectares with a production of 1,923 tonnes and productivity of 1,030 kg / ha. Overall, Kerala's food grain sector shows a long term decline, with the modest productivity gains failing to offset the steady reduction in cultivated area.

2.1.5.2 Trends in Area, Production and Productivity of Annual Crops

- Coconut dominates cultivation but productivity remains low

The Kerala Department of Economics and Statistics reported that in 2013-14, coconut held a dominant position, covering 41.96% of the cultivated area. A portion of the paddy fields was likely converted to coconut cultivation during this period. Production increased from 3,220 million nuts in 1960 – 61 to 5,536 million nuts in 2000-01, primarily due to the expansion of cultivated area rather than significant gains in productivity. Between 2012-13 and 2013–14, production rose marginally from 5,799 million to 5,921 million nuts. However, productivity remained low due to widespread root wilt disease, poor management practices and ageing palms. To enhance productivity, measures such as replanting root wilt palms with elite varieties, removing senile palms and distributing high quality seedlings through nurseries are essential.

- Fluctuating trends in crop area

The area under cashew nut cultivation, an important cash crop, began to decline both in absolute and relative terms from the early 1980s. In contrast, crops like pepper and areca nut initially showed an increasing trend in cultivated area. Cashew nut production rose briefly in the latter half of the 1980s but followed a downward trend through the 1990s. Overall, the area under annual crops expanded between 1960-61 and 1975-76, contracted between 1975-76 and 1985-86 and recovered during the late 1980s. However, this recovery was short lived as the area declined again during the 1990s, indicating fluctuations in crop area over time.

- Coconut dominates, while cashew and pepper decline

By 2020-21, coconut continued to dominate among annual crops, occupying 768,809 hectares and producing 4,788 million nuts with a productivity of 6,228 nuts / ha. However, productivity has stagnated due to root wilt disease and the prevalence of ageing palms. Cashew experienced a sharp decline, with its area falling to 37,923 hectares and production to 20,909 tonnes. Pepper, once Kerala's flagship spice, also showed reduced area (82,124 hectares) and production (33,591 tonnes), with productivity at 409 kg / ha. These trends suggest that while coconut retains dominance, cashew and pepper are witnessing structural declines in both area and production.

2.1.5.3 Trends in Area, Production and Yield of Plantation Crops

- Kerala's Dominance in Plantation crops

Plantation crops are either export oriented or import substituting and hold national economic significance, with nearly 14 lakh families depending on them for livelihood. Kerala plays a pivotal role in the production of four major plantation crops-rubber, tea, coffee and cardamom-together covering 7.04 lakh hectares, accounting for 26.88% of the state's total cropped area. In 2013-14, Kerala contributed 72.02% of India's rubber output, 22% of its coffee production and 6.3% of its tea production, underscoring its dominance in these sectors.

Kerala holds 5.03% of the tea growing area in India and contributes 6.3% to the national production. Despite fluctuations, tea output rose by 5,059 metric tonnes in 2012 – 13 due to productivity gains, although performance remained largely stagnant between 2013 and 2014. Challenges in the tea sector include low productivity, labour shortages, high machinery costs and limited access to original equipment. Coffee plantations, on the other hand, expanded in both absolute and relative terms after a period of decline between the 1960s and early 1980s. The state's coffee productivity stood at 808 kg / ha, slightly below the national average of 852 kg / ha (2011-12), with Robusta dominating 97.1% of the planted area. Kerala remains India's second largest coffee producer after Karnataka (70.4%).

- Kerala ranks second in India's coffee production

Cardamom witnessed an expansion in cultivated area from the 1960s to the early 1990s, but later saw a decline. However, production has improved in recent years, recording a 36% rise in 2013-14 despite a 4.5% drop in area. Rubber remains Kerala's largest plantation crop, covering 550,650 hectares in 2020-21 and producing 492,500 tonnes, though productivity (894 kg / ha) is modest, compared to earlier peaks. Tea covered 35,871 hectares with a productivity of 1,864 kg / ha, while coffee expanded to 85,880 hectares, producing 68,545 tonnes at 798 kg / ha. Cardamom recorded 39,143 hectares, 20,570 tonnes and a productivity of 526 kg / ha, reflecting better management and price incentives.

- Rubber leads, while cardomom shows productivity revival

Plantation crops continue to sustain Kerala's agricultural economy, though performance varies across commodities. Rubber productivity has stagnated, while tea, coffee and cardamom have shown resilience through improved management practices and market demand. The sector's output and efficiency depend heavily on access to credit, fertilizers and irrigation, which remain crucial for sustaining Kerala's agricultural performance.

2.1.6 Globalisation and Agriculture in Kerala

Kerala's agrarian economy was connected to the global market from the distant past. Traders from far off lands were drawn to the valuable spices cultivated in the Western Ghat region. The shift in Kerala's agricultural focus towards cash crops was primarily initiated by the colonial powers. A variety of crops, such as cashew nut, tobacco, tapioca, pineapple and papaya, were introduced by the Portuguese. The Dutch were responsible for the commercialisation of coconut cultivation. Besides commercialisation, the British capitalists and entrepreneurs also established plantations of crops such as coffee, cardamom, tea and rubber in the Ghat regions of Travancore.

- Colonial influence on crop patterns

Kerala's crop arrangement is deeply influenced by its cultural tradition, necessitating monitoring rather than active physical intervention. The agricultural layout of Kerala does not reflect the nationwide pattern, which prioritises major food producing crops. In Kerala very few cash crops, such as coconut, areca nut, cashew nut, are cultivated along with plantation crops like rubber, tea, coffee, pepper and spices, while the cultivation of food crops is largely neglected. Following independence, the central and state governments alike encouraged the growth of cash crops through incentive policies to generate foreign exchange earnings.

- Kerala priorities cash crops over food crops

In the Constitution agriculture is listed under the State's jurisdiction, while tariffs and regulations have been transferred to the Central Government, following the introduction of the WTO to align the Indian economy with the global economy. The Indian government has implemented certain policy modifications to reduce constraints and prohibitive regulations through the liberalisation of import policies and the reduction of import tariffs. India's government has relaxed import tariffs on all products, including intermediaries, raw materials and consumer goods. During 1993 - 94, the maximum rate of duty was lowered from 110 percent to 85 percent for all goods. In the subsequent years, it was reduced from 85 per cent to 65 per cent during 1994 - 95 and then further reduced from 65 per cent to 45 per cent ad valorem in 1997 - 98.

- Agricultural tariffs reduced under trade liberalisatiion policies

The Indian government increased the import tax on edible oils such as palm oil to 75 percent following pressure from farmers, only to lower it to 65 percent as a result of the India - Malaysia agreement of 2001 - 02. The removal of quantitative restrictions on the import of palm oil, artificial rubber and related items such as used tyres and second-hand tyres has led to a dumping effect in the coconut and rubber markets. Lowering import taxes on edible oil like palm oil and artificial rubber has led to a decrease in the market price of natural rubber. The ease with which palm oil is imported from Malaysia has hurt the Kerala economy. However, the main purpose of agricultural crop production is for export, which has aggravated the issue to a very worrying level. A recent wave has caused significant disruption in the fundamental framework of Kerala's economy.

- Reduced import duties led to market disruption, price drops

2.1.6.1 Impact of Globalisation on Kerala Agriculture

The major impacts of globalisation on Kerala agriculture are discussed below.

- Severe price crash in cash crops

1. **The price of cash crops has dropped to an alarming degree:** Coconut and rubber are the major crops of the state and the cultivating area of coconut spreads over 9 lakh hectares and that of rubber 4.73 lakh hectares during 1999 - 2000. The price of copra has dropped to its lowest level, currently at Rs 1780 - 2000 per quintal. The quoted price for copra in Kerala has been the lowest in the last two decades. The cost of the coconut cake has decreased from Rs 700 to Rs 550. The price of coconuts has dropped from an initial price of Rs 5 to either Rs 2 or as high as Rs 2.50 per coconut. The state's total coconut output is approximately 516.7 crore nuts, while the production of rubber is 5.85 lakh tonnes for the same year. The State Agricultural Department estimates that coconut farmers will incur losses of approximately Rs. 4500 crores annually. Rubber prices have demonstrated a similar pattern.The cost of RSS 4 grade rubber dropped from Rs 51 per kilogram in 1995 to Rs 24 by the year 2000. The price of the RSS lot has dropped at a slower rate of Rs 20. The selling price is significantly lower than the benchmark of Rs 34.05 per kg set in 1998.

- Import liberalisation reduced domestic production

2. **Demand for cash crops has declined to unprecedented levels**: As part of the liberalisation of quantitative restrictions, the Indian government has lowered import duties on palm oil, a primary alternative to coconut oil. The organisation has advocated the unrestricted import of palm oil from nations such as Sri Lanka, Singapore, Malaysia and others. The industrial sector has primarily shifted to using palm oil in products such as vanaspati, soaps and cosmetics, thereby significantly reducing the demand for coconut oil within the domestic market. India is self-sufficient in rubber production, but it must import 3 to 5 percent of its domestic consumption to comply with WTO regulations due to rubber's classification as an industrial raw material. Although the cost of natural rubber within the country is roughly equivalent to global prices, the industrial sector relies heavily on importing rubber in large quantities because import tariffs are relatively low. The additional

cost for transportation and procurement is higher than this figure.

- Ineffective market intervention

3. **Farmers are unable to sell their cash crops, even at a reduced rate**: The cash crops sector is experiencing a crisis, which has made it difficult for farmers to sell their products, even at a reduced price, due to the inequitable policies enforced by the domestic industrial sector. This has resulted in an excess of unsold produce accumulated with the farmers. In response to the situation, the Government tasked NAFED with purchasing 1,60,000 tons of copra at a rate of Rs 3600 per quintal during the financial year 1999 - 2000, when the local market price of copra was Rs 2000. Despite NAFED's financial loss in this operation, the overall benefit to farmers was minimal and the profits were largely taken by intermediaries at the time. NAFED recognises its inability to regulate or impact the market conditions effectively. In 2001, the government set the procurement price for copra at Rs 3,250 per quintal; however, NAFED's procurement efforts were unsuccessful. The disposal of the procured coconut oil by NAFED is also seen as a potential contributor to a market flooding scenario, which could further depress the already low price of coconut oil. The Government set a procurement price for rubber at Rs. 32.09 for RSS, IV grade and Rs. 30.79 for other types of rubber in the year 2001. Despite NAFED's procurement accounting for a minimal share of the total crop production, there is no genuine attempt to purchase these crops, not even at the lowest possible price.

- Loan crisis and farmer distress intensify

4. **Decline into poverty and suicide:** Farmers now have relief from repaying the loans borrowed from both scheduled banks and co-operative banks. However, it has brought in revenue from the land and homesteads that were pledged to the banks. In recent times, several farmers have taken their own lives because they were unable to repay the loans they had availed from financial institutions. Farmers are holding demonstrations at bank offices to protest against their unresolved loan obligations.

2.1.6.2 Impact on Kerala Agriculture through ASEAN - India Free Trade Agreement

The ASEAN - India Free Trade Agreement (AIFTA), which came into effect in 2010, aimed at reducing tariffs and increasing trade between India and ASEAN member countries. While the agreement had a positive impact on overall trade and some sectors within India, it raised serious concerns among agricultural communities in Kerala due to the potential negative effects on specific cash crops important to the state's economy. Here is how the Free Trade Agreement affected crops in Kerala:

- **Rubber:** Kerala's rubber farmers faced a drastic reduction in import tariffs, leading to a flood of cheaper imports, primarily from Thailand, Malaysia and Indonesia. This, in turn, caused a significant dip in domestic rubber prices, affecting farmers' livelihoods and resulting in a decline in rubber production within the state.

- **Coconut**: The reduction in import duty on palm oil from Malaysia and Indonesia, a substitute for coconut oil, significantly impacted coconut farmers in Kerala. This led to a fall in coconut oil prices and negatively affected the coconut farming sector. Imports of coconut from Sri Lanka also had adverse effects on Kerala's coconut and copra markets. However, recent shortfall in the production of coconut in Kerala and other states have led to a sudden surge in coconut and copra prices.

- **Spices (Pepper, Cardamom, Ginger, etc.)**: Kerala, a major producer and exporter of spices, faces increased competition from cheaper imports under AIFTA from ASEAN countries like Indonesia, the Philippines, Sri Lanka and Vietnam, where productivity is often higher and production costs are lower and the exchange rates advantages to them.

- AIFTA weakens cash crops

- **Tea and Coffee**: As in spices, the reduction in tariffs on tea and coffee under the AIFTA led to fears of increased imports from other ASEAN nations like Vietnam, potentially affecting the domestic prices and income of tea and coffee growers in Kerala.

The agreement involved significant tariff reductions on merchandise goods, including many of Kerala's key agricultural products, making imports from ASEAN countries

- Cost pressures on agriculture

more competitive. Countries like Vietnam and Indonesia have significantly higher per-hectare productivity in crops such as pepper and coffee, giving them a cost advantage that could harm Kerala's producers. Kerala's agriculture sector, already facing challenges such as high input costs and reliance on cash crops, became more vulnerable under the new trade regime. The appreciation of currency exchange rate in India compared to many ASEAN countries also placed Kerala's agricultural advantage at risk.

2.1.7 Climate Change and Kerala's Agriculture

Kerala, situated within the Humid Tropics, is among the regions in the Humid Tropics with the highest levels of rainfall. About 68 percent of Kerala's rainfall occurs during thesouth west monsoon,16 percent in the post-monsoon season,14 percent in summer, and only 2 percent in winter In the southern districts, coconut yields are relatively higher compared to the north, though the prevalence of root wilt disease still affects production. Monsoon floods hurt paddy production in the State, whereas prolonged droughts during the summer season, in the absence of post-monsoon rainfall, significantly impair the production of plantation crops. In the state of Kerala, the wetlands serve as vital water reservoirs during the hot summer months and function as natural flood buffers during the monsoon season. Kerala's natural wetlands are increasingly drained or converted for alternatives uses. Frequent floods and droughts in Kerala in recent years could be partly due to the loss of wetlands.

Over time, there has been a substantial shift in the way crops are cultivated. The area dedicated to rice and cashews was experiencing a decline, whereas the area allocated to rubber and coconuts was seeing an increase. Vanilla and cocoa were introduced, after which vanilla disappeared and the area under cocoa subsequently decreased. Although black pepper cultivation expanded across the state, it is now showing signs of decline. In the past oranges were abundant in the Wayanad District, but they have almost vanished now. Most of the paddy fields in Wayanad District have been converted into areca nut and banana plantations. The overall trend of food crop production was falling, whereas non-food crops were rising due to a range of socio-economic factors.

Climate change is likely to lead to a range of issues in Kerala, including reduced rainfall, loss of wetlands and biodiversity in land and ocean, increased temperatures and sea levels, more frequent flooding and droughts, landslides, ground water depletion and salt water contamination, shrinking forest areas, recurring forest fires, unseasonal rains and hail storms. Crops are predominantly expected to be vulnerable to the impacts of climate change / variability over the coming decades within the Humid Tropics. Evidence of the threat posed by global warming and climate change can be observed through decreases in cropped areas, grain production and productivity, as well as the quality of grains. Weather and climate are significant factors influencing crop distribution and production patterns. A region's climate influences how well a particular crop can adapt, whereas weather has a direct impact on the crop's yield characteristics.Changes have taken place over the years in the earth's natural atmospheric system, primarily due to human activities, resulting in the emission of substantial amounts of greenhouse gases (GHGs). The substantial rise in the highest recorded temperature within Kerala suggests that the state is experiencing warming in line with global warming, indicating a transition from humid to relatively arid conditions within Kerala's traditionally humid climate.

- Wide ranging negative impacts of climate change

Summarised Overview

Kerala's transformation from a predominantly agrarian society to one where the share of agriculture in income and employment has significantly declined. Key features include the implementation of progressive land reforms, which successfully reduced land inequality and empowered tenant farmers, but also led to unintended outcomes like labour shortages and the gradual exit of farming communities. The shift in land use and cropping patterns from food crops to more profitable cash and plantation crops, resulting in reduced food grain production and increased market dependency.

The multidimensional agrarian crisis brought about by factors such as declining productivity, poor credit access, unscientific use of fertilizer and inadequate irrigation. The impact of globalisation has intensified these issues, exposing Kerala's agriculture to international price volatility and import pressures, especially in rubber and coconut markets. In addition, climate change indicates severe threats through erratic rainfall, floods, droughts and sea level rise, particularly affecting rice growing areas. Weather based crop insurance and improved agro-advisory services are essential to protect farmer incomes and enhance resilience in Kerala's rural economy.

Assignments

1. Discuss the current role of agriculture in terms of employment and contribution to the State Domestic Product.
2. Evaluate the role of land reforms in Kerala's agricultural sector.
3. Explain the major causes of the agrarian crisis in Kerala.
4. Examine the effects of Globalisation on Kerala's agricultural markets.
5. Explain the impact of climate change in Kerala's agriculture sector.

Suggested Reading

1. B. A. Prakash (Ed.) (2004). *Kerala's Economic Development: Performance and Problems in the Post-Liberalisation period*. Sage Publications, New Delhi.
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2. State Planning Board, *Kerala Economic Review* (Annual Issues).

3. K.V. Velayudhan (2010) *Economic Development of Kerala Retrospect and Prospect,* Rainbow Book Publishers.

4. P. Surendran (2002) *The Kerala Economy Growth and Survival*, Vrinda Publication

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Industrial Performance in Kerala

Learning Outcomes

After completing this unit, the learner will be able to:

- understand the structure and role of the industrial sector in Kerala's economy
- examine the growth of the Information Technology (IT) sector in Kerala
- evaluate the significance of Micro, Small and Medium Enterprises (MSMEs)
- identify key sunrise industries in Kerala
- assess the importance of infrastructure development

Background

Kerala's industrial development has undergone significant changes over the years. While the state was earlier known for traditional industries like coir, handloom and cashew processing, recent decades have seen a gradual shift towards modern sectors such as information technology, biotechnology and other knowledge-based industries. The state has also focused on developing Micro, Small and Medium Enterprises (MSMEs) as a means of promoting employment and local entrepreneurship.

Kerala has identified sunrise industries such as food processing, tourism and wellness services in addition to emerging sectors like IT and biotechnology. These sectors have demonstrated potential for expansion and funding opportunities. The state has also made efforts to improve infrastructure, which includes transport, power and industrial parks, to support industrial development. Despite these issues persisting with land availability, skilled labour and ease of business continue to impact the rate of industrial expansion in the state.

Keywords

Industry, Information Technology, MSME, Sunrise Industries

Discussion

2.2.1 Industry

- High social development

The Kerala model demonstrates that a region can achieve high living standards and impressive social indicators even with modest levels of economic output and per capita income. At the same time, the state has recorded remarkable progress in literacy, education, maternal and child health and life expectancy. However, these gains have often come at the expense of Kerala's productive sectors. Compared to the national average, the state continues to lag in production levels and per capita income, with a prolonged industrial slow down persisting for over four decades. Contributing factors include the dominance of small scale enterprises with outdated technology, limited reinvestment capacity, and a lack of essential raw materials, especially metallic minerals. These challenges are further compounded by high land costs, shortage of industrial land, a high population density that restricts polluting industries and labour costs that are considerably higher than those in many other states.

- Limited sectoral expansion

Research on Kerala's industrial performance highlights that the state's industrial composition is uneven and is heavily dependend on a limited number of traditional, resource- based sectors. Such dependency has hindered diversification and long term growth. The constraints of high input costs, scarce land availability and socio-political factors have collectively prevented industries from expanding or modernising. As a result, Kerala has struggled to keep pace with other Indian states in attracting large scale investments and achieving sustainable industrial growth.

Experts recommend a structural transformation of Kerala's industrial base to overcome these constraints. The focus must shift to modern, skill intensive and knowledge driven sectors such as electronics and information technology, which require less land, generate minimal pollution and leverage

Kerala's educated workforce. The state already offers several advantages for IT based industries, including superior bandwidth infrastructure, a highly skilled talent pool and quality-of-life factors that support low attrition rates. Initiatives like Akshaya, IT@School and various e-governance programmes have further strengthened the state's digital ecosystem, laying a foundation for sustainable industrial growth. Encouraging environmentally sustainable and technologically advanced sectors will be critical to balancing Kerala's socio-economic achievements with stronger productive capacity in the future.

- Sustainable industrial development

2.2.2 Information Technology

- Emerging IT hub

Kerala has established itself as a significant player in India's information technology (IT) sector, driven primarily by its skilled and educated work force, strategic government initiatives and a high quality of life. Investor friendly policies, relatively low operational costs and widespread mobile and broadband connectivity have made Kerala an attractive destination for IT investments. Long standing achievements in literacy and universal education have provided a strong foundation for computer literacy and workforce readiness. Despite the relatively smaller size of its economy, Kerala's contribution to the national IT sector has been significant and commendable.

- IT support and growth

Several organisations and infrastructure projects have been pivotal in advancing Kerala's IT ecosystem. The Kerala State Information Technology Mission (KSITM), the Kerala Digital University Kerala (DUK) and technology parks such as Technopark, Infopark and Cyberpark have been instrumental in promoting IT initiatives. Agencies like KSITIL, ICFOSS, KSUM and C-DIT further support startups, open source development and digital innovation. Technopark, established in 1990 as India's first IT park, hosts over 500 companies and currently employs around 80,000 professionals, with built-up space totalling 12.72 million square feet. Infopark Kochi, inaugurated in 2004, has expanded to 9.26 million sq.ft hosting 582 companies and over 70,000 employees. The Cyberpark at Kozhikode is also growing rapidly, contributing to IT exports and providing additional employment opportunities.

In the past, Kerala faced challenges in attracting major IT players, but over time companies such as Wipro, Infosys, Cognizant,Oracle and others have established a presence in

- Slow but steady growth

the state. The growth in firm numbers has been moderate, from 229 in 2001 to 350 in 2016, while IT revenue increased from ₹300 crore in 2001 – 02 to ₹2,867 crore in 2015. Compared to leading states like Karnataka, Maharashtra, Telangana and Tamil Nadu, Kerala's growth was slower, although notable gains were observed during 2007 – 08, despite the global economic down turn of 2008.

- Accelerated technology growth

Kerala's IT sector has experienced a remarkable acceleration in recent years. IT exports reached ₹26,252 crore in 2024 – 25, a significant rise from ₹8,003 crore in 2016 – 17. Technopark alone has created 80,000 jobs and achieved a 56% increase in software exports between 2021 and 2024. Infopark Kochi recorded exports of ₹11,417 crore in 2023 – 24, reflecting a 24.28% increase from the previous year, continuing a positive trend driven by global digitalisation, including COVID-19-induced demand for IT services. Cyberpark in Kozhikode also recorded a 15% growth in IT exports during 2023 – 24 and is undergoing expansion under Phase II.

- Rapid startup growth

Kerala's startup ecosystem has grown exponentially, with 6,749 startups were active in 2024, compared to only300 in 2015. The combination of IT parks, government initiatives and a supportive policy framework has fostered innovation and employment opportunities across the state. The 'hub and spoke' model of Infopark, along with Technopark and Cyberpark expansions, highlights Kerala's strategic focus on sustainable, knowledge driven growth, positioning the state as a competitive and emerging IT hub in India.

2.2.3 Micro, Small and Medium Enterprises

- MSMEs boost inclusive industrial growth

Micro, Small and Medium Enterprises (MSMEs) are major contributors to entrepreneurial growth, promoting innovation in business practices. These businesses are rapidly expanding across various sectors, offering a wide variety of products and services to serve both domestic and international markets. In India, MSMEs play a major role in creating substantial employment opportunities, providing a much higher labour to capital ratio compared to larger industries. Recognising the sector's immense potential, the Government of Kerala has prioritised its development. Additionally, MSMEs contribute significantly to the industrial growth of rural and underdeveloped regions, helping to reduce regional disparities and promoting a more balanced distribution of wealth and income.

2.2.3.1 Classification of MSMEs

Table 2.2.1 Classification of MSMEs

Micro	Small	Medium
Investment less than Rs. 1 crore	Investment less than Rs. 10 crores	Investment less than Rs. 50 crores
Turnover less than Rs. 5 crores	Turnover less than Rs. 50 crores	Turnover less than Rs. 250crore

Source: Ministry of MSME, Government of India

The MSME sector in Kerala is emerging as a significant contributor to income generation and employment creation. Despite its growing importance, the level of investment in this sector remains relatively low. As per the MSME Survey and the Quick Results of the 4th Census, Kerala represents 5.62 per cent of MSME enterprises in India. According to the MSME Annual Report 2022-23, Kerala ranks 12th nationally in the number of MSMEs. The state is known for its blend of traditional and modern industries, which covers sectors like agriculture, tourism, IT and health care. The MSME sector plays a major role in the development of rural and underdeveloped areas, while also offering employment opportunities to marginalised communities, including Scheduled Castes (SC), Scheduled Tribes (ST), women and persons with disabilities.

- Sectoral diversity under MSME sector

The MSME sector has seen a notable rise in the number of micro enterprises, with significant growth in both the number of active enterprises and the employment they generate. The industries within this sector include handicrafts, handloom, khadi, food processing, garment and textile manufacturing, as well as sectors focused on coir, wood, bamboo, plastic, rubber, leather and clay products. MSMEs contribute to the production of over 8,000 different products, covering a wide range of items from traditional crafts to advanced, high-tech goods.

The Government and financial institutions in Kerala actively support and assist MSMEs. To encourage the growth of MSMEs and traditional industries, the District Industries Centres (DIC) play a key role as facilitators. DIC implements

- Government support boosts MSMEs

several initiatives aimed at nurturing an entrepreneurial culture within the state. The Industries Department offers financial support to establish Entrepreneurship Development clubs at the school and college levels, promoting entrepreneurship among the youth. Additionally, the department focuses on providing services to start-ups and establishing business incubation centres through the District industries centres.

2.2.3.2 Performance of the Sector

- MSME growth supports job creation

In 2022-23, the state witnessed a significant rise in the establishment of new MSME units. A total of 1,39,840 new units were set up, with an investment of Rs 8,421.63 crore, marking an impressive 449 per cent increase compared to the previous year. These units have employed 3,00,051 individuals, reflecting a 244 per cent increase in job creation over the previous year. This remarkable growth in the MSME sector serves as a positive indicator for the state's economy, highlighting its strong potential for further development and expansion.

Table 2.2.2 Achievement in the MSME sector, 2017-18 to 2022-23

Year	No. of MSME units	Investment (Rs in crore)	Employment (in number)
2017-18	15,468	1,249.61	51,244
2018-19	13,826	1,321.94	49,068
2019-10	13,695	1,338.65	46,081
2020-21	11,540	1,221.86	44,975
2021-22	15,285	1,535.09	56,233
2022-23	1,39,840	8,421.63	3,00,051

Source: Directorate of Industries and Commerce.

In the fiscal year 2023-24, Kerala's MSME sector experienced significant expansion, with over one lakh new units established for the second consecutive year. The 'Year of Enterprises' initiative attracted investments totalling ₹15,167.36 crore and generated 5,09,740 jobs over two years. While the retail and service sectors dominate the new establishments, manufacturing remains a smaller component. Districts like Ernakulam and

- MSME expansion achievements

Malappuram led in the number of new MSMEs. Despite the growth, concerns were raised about the predominance of sole proprietorships, which may have limited impact on economic linkages and broader job creation. Small traders and retailers also expressed worries about competition from large supermarkets and e-commerce platforms, highlighting the need for government support. The 'Year of Enterprises 2.0' in 2022-23 further strengthened the sector, providing financial and marketing support and skill development, achieving the target of 139,837 new MSMEs with employment generation of 300,020 within 245 days.

- MSME support initiatives

In the financial year 2024 -25, Kerala's MSME sector continues to receive significant support through various programmes. The 'Year of Enterprises 3.0' aims to establish one lakh new MSMEs with comprehensive financial, marketing and skill development assistance. The RAMP (Raising and Accelerating MSME Performance) plan, with a ₹29.49 crore investment, seeks to strengthen the ecosystem through sectoral surveys, expert engagement, training programmes, quality infrastructure and export promotion. Additional initiatives such as the KERA Project, Kerala Stressed MSMEs Revival & Rehabilitation Scheme, MSME Clinics, Kerala Brand and Mission 1000 focus on agri-based commercialisation, supporting stressed units, marketing MSME products and scaling select MSMEs to an average turnover of ₹100 crore. Collectively, these programmes aim to drive innovation, employment and sustainable growth across Kerala's MSME sector.

2.2.4 Sunrise Industries in Kerala

An effective industrial policy plays an important role in promoting sustained economic growth, addressing contemporary challenges and establishing a favourable environment for business development and entrepreneurial innovation. In recognition of this, the Government of Kerala introduced the New Industrial Policy in 2023, aimed at accelerating the state's industrial expansion and enhancing employment generation. This policy marks a progression from the 2018 Industrial Policy, incorporating revisions that reflect the evolving economic and technological environment. Emphasising the development of high-potential 'sunrise'industries, the policy outlines a framework for financial incentives and strategic support to nurture these emerging sectors. The policy is based on seven core pillars:

- Kerala's new policy advances industrialisation

i. promotion of entrepreneurship,

ii. development of enabling infrastructure,

iii. preparedness for Industry 4.0, including robotic manufacturing and advanced data analytics,

iv. enhancement of skills for future oriented employment,

v. establishment of sector specific industrial ecosystems,

vi. adherence to Environmental, Social and Governance (ESG) standards and

vii. the promotion of the distinct 'Kerala' industrial brand.

- Focus on high tech industrial innovation

The targeted sectors under the new industrial policy include advanced technologies such as artificial intelligence, robotics, nanotechnology and 3D printing, alongside critical areas like biotechnology, life sciences and engineering research and development. Additionally, the policy places emphasis on the development of electric vehicles, electronic system design and manufacturing and the production of medical equipment and pharmaceuticals. Traditional sectors are also reimagined through the inclusion of high tech farming, value added plantation products and high value rubber goods. Moreover, the policy supports growth in Ayurveda, food processing technologies, renewable energy, recycling and waste management, as well as logistics, packaging, retail, tourism and hospitality. Collectively, these focus areas are intended to promote innovation, generate employment and position Kerala as a competitive industrial hub in both national and global contexts.

- Incentives promote industrial investment

The Policy outlines a comprehensive package of incentives aimed at promoting industrial development. These incentives encompass a wide range of financial and non-financial support mechanisms. Key provisions include access to low interest loans, capital subsidies, exemptions from electricity duty and reimbursement of State Goods and Services Tax (SGST). The policy also facilitates access to finance through the Initial Public Offering (IPO) route and offers subsidies for investment and employment generation. Additional incentives cover the exemption of stamp duty and registration fees for manufacturing enterprises and private industrial estates, support for participation in trade fairs, promotion of intellectual property rights and assistance with quality certification.

- Policy promotes innovation and sustainability

Further, the policy emphasises sustainable and responsible industrial practices through dedicated incentives, promotes the adoption of Industry 4.0 technologies in manufacturing and supports research and development (R&D) activities. Specific measures are also in place for scaling up start ups, branding and marketing under the 'Made in Kerala' initiative and attracting investments under the central Production Linked Incentive (PLI) scheme. Notably, the government has demonstrated efficiency in the early stages of implementation, with the establishment of private industrial parks, the introduction of branded 'Made in Kerala' products and the launch of targeted schemes for enterprise expansion. These initiatives collectively reflect the state's strategic intent to nurture a dynamic and resilient industrial ecosystem.

- Simplified land allotment encourages industry

In 2024, the Government of Kerala introduced the Unified Industrial Land and Building (Allotment and Disposal) Regulations applicable to the Kerala Industrial Infrastructure Development Corporation (KINFRA) and the Kerala State Industrial Development Corporation (KSIDC). This regulatory frame work is intended to streamline the process for setting up industrial units on land and within facilities owned by these agencies, thereby reducing bureaucratic hurdles and improving ease of access for investors. A notable emphasis of the regulations is on strengthening the logistics and warehousing sectors, which are vital for industrial efficiency and supply chain integration. Key provisions include the availability of land on an annual rental basis, the allocation of plots to private developers and builders to promote infrastructure led growth and the allowance for mortgage of lease hold rights to secure institutional financing. Collectively, these measures are designed to promote efficient land utilisation, attract private investment and facilitate faster industrial development in the state.

2.2.5 BioTechnology Development in Kerala

- Biotech innovation is driven by infrastructure

Since the 1990s, Kerala has strategically positioned itself as a hub for biotechnology, utilising its rich biodiversity, strong research infrastructure and skilled work force. Institutions like the Rajiv Gandhi Centre for Biotechnology (RGCB) and the Institute of Advanced Virology (IAV) have been at the fore front, driving research in molecular biology, virology and bio-manufacturing. The Bio 360 Life Sciences Park in Thiruvananthapuram shows the state's commitment to promoting innovation, providing facilities for Research and Development (R&D), incubation and manufacturing in life sciences.

- Kerala advances biotech enabled economy

In recent years, Kerala has strengthened its focus on biotechnology through initiatives like the BioE3 policy, which aims to transition from chemical based industries to bio-manufacturing hubs. This policy emphasises the integration of biotechnology into economic, employment and environmental strategies, aligning with national goals of carbon neutrality. Events such as the Bio Connect conclave have further highlighted Kerala's growing position in the global biotech sector. These initiatives are attracting investments and supporting collaborations in areas like nutraceuticals, vaccine development and AI in genetics. Looking ahead, Kerala's biotechnology sector is set for significant growth, supported by state policies, research institutions and a growing startup ecosystem. With continued investment in infrastructure and innovation, the state is set to play a major role in India's biotechnology revolution, contributing to advancements in healthcare, agriculture and environmental sustainability.

2.2.6 Development of Infrastructure Facilities

- KIIFB promotes infrastructure funding

The Kerala Infrastructure Investment Fund Board (KIIFB), established in 1999, serves as a specialised agency tasked with mobilising funds for capital expenditure on behalf of the Kerala Government. The creation of KIIFB represents a pivotal development in the state's infrastructure growth. Instituted under the Kerala Infrastructure Investment Fund (KIIF) Act, the Board's primary purpose is to generate financial resources and promote investments in key infrastructure projects throughout Kerala. In 2016, the KIIF Act was amended to restructure the Board and empower it to undertake large scale infrastructure initiatives more effectively. This reformation gave Kerala a dedicated institution designed to support infrastructure development by addressing funding short falls and optimising the utilisation of both public and private capital.

KIIFB facilitates the advancement of both physical and social infrastructure, including significant land acquisitions essential for the execution of projects. It employs a variety of financial instruments sanctioned by the Securities and Exchange Board of India (SEBI) and the Reserve Bank of India (RBI) to secure funding. KIIFB collaborates with state and central public sector entities, incorporating them as Special Purpose Vehicles (SPVs) to assist administrative departments in the planning and implementation of infrastructure projects, thereby promoting an integrated approach to sustainable development in the state. The main infrastructure areas in Kerala include transport, energy, communication and housing. They are discussed below.

- KIIFB enables integrated infrastructure development

2.2.6.1 Road Transport

Kerala's road network spans a total length of 1,91,292.39 kilometres, including both classified and non-classified roads as defined by the Indian Roads Congress. Among these, the National Highways, State Highways and Major District Roads (MDRs) constitute the core arteries of transportation infrastructure, collectively accommodating approximately 80 percent of the state's overall road traffic. This highlights the critical role of these categories in facilitating mobility, regional connectivity and economic activities across the state.

- Major transport roads dominate connectivity

Kerala has 331,904 kilometres (206,236 mi) of roads, which accounts for 5.6% of India's total. This translates to about 9.94 kilometres of road per thousand people, compared to an average of 4.87 kilometres in the country. Roads in Kerala include 1,812 kilometres of national highway; 1.6% of the nation's total, 4,342 kilometres of state highway; 2.5% of the nation's total, 27,470 kilometres of district roads; 4.7% of the nation's total, 33,201 kilometres of urban (municipal) roads; 6.3% of the nation's total and 158,775 kilometres of rural roads; 3.8% of the nation's total. National Highway 66 connects Kanyakumari to Mumbai; it enters Kerala via Talapady in Kasargod to Thiruvananthapuram before entering Tamil Nadu. Among the districts in Kerala, Kottayam holds the largest share of roads maintained by the Public Works Department (PWD), accounting for 3,040 kilometres, which represents approximately 10.3 percent of the state's total length of PWD road. In contrast, Wayanad reports the lowest share, with a total of 914 kilometres, constituting around 3.1 percent. This disparity reflects regional variations in infrastructure development and connectivity within the state.

- Statewide Road Distribution

In the year 2023 – 24, the aggregate road length managed by various local self government institutions in Kerala amounted to 1,52,422 kilometres. Of this, District and Grama Panchayats were responsible for maintaining 1,28,048 kilometres, accounting for approximately 84 percent of the total.

- Local bodies manage many roads

Municipalities maintained 16,560 kilometres (10.9 percent), while Municipal Corporations supervised the upkeep of 7,813 kilometres (5.1 percent). Roads maintained by various local bodies based on the Geographic Information System (GIS) enabled road asset mapping conducted by the Kerala Remote Sensing and Environment Centre (KRSEC) is shown in table below.

Table 2.2.3 Roads Maintained by Various Local Bodies,in Km

Sl. No.	Local Body	Total length
1	Corporations	7813
2	Municipality	16,560
3	District Panchayath	140
4	Block Panchayath	Does not have any road assets
5	Grama panchayath	1,27,908

Source: Local Self-Government Department.

2.2.6.2 Rail Transport

- Railways network in kerala handles heavy traffic

Kerala's railway network comprises a total track length of 2,106 kilometres, inclusive of running tracks and is administratively managed under two divisions of the Southern Railway - Palakkad and Thiruvananthapuram. The Palakkad Division oversees a route length of 1,075 kilometres, facilitating the operation of 99 mail and express trains, 60 passenger services and 64 freight trains. The Thiruvananthapuram Division manages a slightly shorter route length of 1,031.7 kilometres, but operates a larger volume of daily services, including approximately 170 mail, express and passenger trains, in addition to 8 freight trains. Notably, all railway lines passing through the state have been upgraded to broad gauge, increasing capacity and interoperability across the network.

- Rail expansion supports state connectivity

Kerala is served by a total of 200 railway stations, 95 under the jurisdiction of the Palakkad Division and 105 under the Thiruvananthapuram Division. Ongoing infrastructure improvement include track doubling and electrification projects aimed at improving efficiency and connectivity. In addition, feasibility studies are currently being conducted for proposed new railway lines, including a coastal corridor intended to connect key locations such as Kodungallur, Nedumangad, Malappuram and Manjeri. These developments signal a strategic focus on expanding and modernising the rail infrastructure to support the state's growing need for transportation.

2.2.6.3 Air Transport

- Four international airports increase accessibility

The commissioning of Kannur International Airport in 2019 marked a significant milestone in Kerala's aviation sector, making it the only state in India with four operational international airports. This development has positioned Kerala as one of the fastest growing regions in terms of air connectivity and aviation infrastructure. Among these airports, Kochi and Kannur have been developed through Public Private Partnership (PPP) models, reflecting the state's commitment to strengthening private investment for infrastructure advancement. The Thiruvananthapuram International Airport has also been transitioned to PPP mode and is currently operated by the Adani Group. In contrast, the Calicut (Kozhikode) International Airport continues to be managed by the Airports Authority of India (AAI). This diversified ownership structure underscores Kerala's strategic approach to enhancing aviation capacity and facilitating greater connectivity for both domestic and international travel.

2.2.6.4 Water Transport

- Water transport improves cargo efficiency

Water transport in Kerala holds significant potential as a complementary mode to the existing road and rail networks, particularly given its capacity to handle large volumes of cargo efficiently over long distances. Its comparative advantages in transporting bulk goods make it an attractive and sustainable alternative within the state's multimodal transport framework. Kerala's extensive coastline, spanning approximately 590 kilometres, supports this potential.

- Vizhinjam Port development and revenue potential

Kerala is home to one major port, Cochin Port and 17 non-major ports, among which Vizhinjam stands out as a major infrastructure project. Developed under a Public Private Partnership (PPP) model, the deep water international transshipment terminal had its first phase completed and was officially commissioned on May 2, 2025, with commercial operations starting on December 3, 2024. The project involved an investment of ₹8,867 crore, with the State government contributing ₹5,595 crore (63%), the Adani Group investing ₹2,454 crore (28%) and the Centre granting ₹818 crore (9%) as VGF loan. Additionally, ₹1,350 crore was spent by the

State government for constructing the breakwater and another ₹1,482.92 crore is required for establishing rail connectivity. Once fully operational, Vizhinjam is expected to generate an estimated ₹10,000 crore annually through customs duty, though most of this revenue will go to the Central government. By 2028, the port's installed capacity is projected to reach 3 million Twenty-Foot Equivalent Units (TEUs) per annum. It also achieved the milestone of handling 1 lakh TEUs a month in early 2025, ranking first in cargo movement along the south and west coasts of India.

- Ports and maritime expansion

Of the 17 non-major ports in Kerala, only four-Vizhinjam, Beypore (Kozhikode), Azhikkal and Kollam, are currently operational. The state also hosts a riverine port at Nattakom in Kottayam, adding diversity to its inland waterway infrastructure. Furthermore, the development of Malabar Port & SEZ, a special purpose vehicle for a PPP based port project in the Malabar region (centred at Azhikkal), highlights Kerala's ongoing efforts to strengthen maritime infrastructure and expand its role in India's shipping and logistics network.

2.2.6.5 Power Sector in Kerala

- Low agricultural electricity uses in Kerala

In Kerala, electricity consumption is primarily concentrated in the domestic and commercial sectors, reflecting the state's socio-economic profile and limited dependence on energy intensive agricultural activities. According to the Energy Data Management Report published by the Bureau of Energy Efficiency in 2023, agricultural electricity consumption in India averages around 18 percent, with several states exceeding 30 percent. However, Kerala records a notably low share of just 1.7 percent in this category, highlighting the relatively modest scale of energy use in its agricultural sector.

- Energy mix diversifies with renewables

Hydroelectric power remains the principal source of electricity generation in the state. However, recent years have witnessed a significant diversification of the energy mix through the integration of Variable and Renewable Energy (VRE) sources, particularly solar and wind power. In line with this transition, the state has undertaken substantial efforts to enhance the reliability and resilience of its power transmission and distribution systems. The commissioning of critical infrastructure components during 2023 – 24 represents a milestone in Kerala's energy sector development, enabling the state to effectively manage growing electricity demand while ensuring a stable and sustainable power supply for the future.

2.2.6.6 Communication

i. Telecommunication

- Kerala leads in rural tele-density

As of March 2024, Kerala recorded a total of 4.37 crore telephone connections, accounting for approximately 3.64 percent of the total telephone connections in India. Notably, the number of wireline (landline) connections in the state showed a modest resurgence, rising from 13.81 lakh in March 2023 to 15.4 lakh in March 2024, an annual growth of 11.5 percent. In contrast, mobile (wireless) connections experienced a decline during the same period, decreasing from 4.24 crore to 4 crore. The overall tele-density in Kerala stood at 121.7 percent in March 2024. Remarkably, rural tele-density was significantly higher at 239.6 percent, while urban tele-density was reported at 87.6 percent. Among Indian service areas, Kerala continues to lead in rural tele-density, followed closely by Goa with 234.3 percent.

- Kerala expands inclusive digital connectivity

The Government of Kerala has placed strategic emphasis on the expansion of internet and broadband services, acknowledging their role in driving digital inclusion and economic development. Internet connectivity in the state has grown steadily, with the total number of internet connections increasing from 89.00 million in March 2023 to 93.73 million in March 2024, reflecting a 5.3 percent annual growth. Correspondingly, the number of internet subscribers per 100 population has shown an upward trend. In rural areas, this figure increased from 171.2 in March 2023 to 197.7 in March 2024, while in urban areas, it rose modestly from 62.1 to 63.7 during the same period. These developments highlight Kerala's advancing digital infrastructure and the state's commitment to bridging the digital divide across regions.

ii. Postal Network

- Kerala ensures universal postal access

The Kerala Postal Circle includes the entire geographical territory of Kerala, in addition to the Union Territory of Lakshadweep Islands and the Mahe region of the Union Territory of Puducherry. Kerala has achieved near universal postal coverage, with every village in the state having access to at least one post office. As of August 2024, the Postal Circle comprises 5,062 post offices, which include 1,508 Departmental Post Offices and 3,554 Extra Departmental Branch Post Offices.

- Kerala leads in rural postal coverage

On average, each post office in Kerala serves an area of 7.7 square kilometres and a population of approximately 6,613 individuals. These figures compare favourably with the national averages of 21.21 square kilometres and 7,175 persons per post office, respectively, indicating a higher density and accessibility of postal services in the state. Furthermore, a significant portion, 82.2 percent, of these post offices is located in rural areas, indicating the state's emphasis on extending communication and financial services to remote and underserved regions through an extensive rural postal network.

2.2.6.7 Housing Sector in Kerala

- Housing improves equity and development

Housing plays an important role in advancing a state's economic development, social well being and civic progress. It constitutes not only a basic human necessity but also a recognised fundamental right. Access to affordable and suitable housing is associated with numerous positive outcomes, including better health status, increased educational attainment and increased economic opportunities. Improvements in housing conditions are widely acknowledged as a critical mechanism for poverty alleviation, contributing to the reduction of social inequalities and strengthening resilience against economic and environmental adversities.

- Kerala prioritises housing for the vulnerable

Kerala has demonstrated notable progress in addressing the housing needs of economically vulnerable groups. Even prior to the implementation of various centrally sponsored housing schemes, the state pioneered effective initiatives aimed at providing affordable housing solutions for marginalised communities. In recent years, the Government of Kerala has intensified its focus on expanding housing access for individuals experiencing homelessness while simultaneously ensuring adherence to quality and construction standards. The launch of the LIFE Mission, a comprehensive housing programme, exemplifies the state's commitment to delivering improved and sustainable housing options to populations living in poverty.

Summarised Overview

Kerala economy is on a shift from traditional industries (like coir and handloom) to modern sectors such as Information Technology (IT), biotechnology and other knowledge-based industries. The state faces challenges like industrial stagnation, low investment and limited raw materials, but is focusing on modern, sustainable and skill-based sectors. Kerala's IT sector is supported by strong infrastructure, high literacy and government initiatives like Technopark and Infopark. However, IT firm expansion and revenue growth remain modest compared to leading states like Karnataka and Maharashtra. The Micro, Small and Medium Enterprises (MSMEs) sector is growing, contributing to employment and regional development, especially among marginalised groups. The state witnessed a sharp rise in MSME units and employment in 2022 – 23. The 2023 Industrial Policy targets sunrise industries like AI, robotics, biotechnology, electric vehicles and renewable energy. It includes financial incentives, sustainability goals and infrastructure support to attract investment and drive innovation.

Kerala also promotes biotechnology through policies and research institutions. The Bio 360 Life Sciences Park and BioE3 Policy reflect this effort. Infrastructure development is led by the Kerala Infrastructure Investment Fund Board (KIIFB), which funds projects in transport, energy, housing and communication. Road and rail networks have expanded and air connectivity has improved with four international airports. Water transport and ports are being modernised, including the Vizhinjam transshipment terminal. In the power sector, Kerala is shifting from hydroelectric dependency to a more diversified energy mix, including solar and wind. Communication infrastructure shows strong rural tele-density and growing internet access. Housing is seen as a key development tool. The LIFE Mission aims to provide affordable housing to vulnerable groups, ensuring social welfare and economic inclusion.

Assignments

1. Critically analyse the impact of Kerala's "Model of Development" on its industrial growth.

2. What are the advantages and limitations of Kerala as an emerging IT hub compared to other South Indian states?

3. Assess the contribution of the MSME sector to employment generation and regional development in Kerala.

4. Discuss the importance of road, rail, air and water in increasing industrial connectivity in Kerala.

Suggested Reading

1. B. A. Prakash (Ed.) (2004) *Kerala's Economic Development: Performance and Problems in the Post-Liberalisation Period*. Sage Publications, New Delhi.

2. Government of Kerala Economic Review and Budget Documents (Annual) .

3. B. A. Prakash (Ed) 1999, *Kerala's Economic Development: Issues and Problems*, Sage Publications. New Delhi.

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9. Rajasenan, D. and Gerard De Groot (ed) (2005). *Kerala Economy: Trajectories, Challenges and Implications*, CUSAT, Kochi.

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3. P. Surendran (2002) *The Kerala Economy Growth and Survival*, Vrinda Publication.

4. *Ministry Annual Report (2019-20)* (PDF). New Delhi: Ministry of Road Transport & Highways Transport Research Wing, Government of India.

UNIT 3 Development of the Service Sector in Kerala

Learning Outcomes

After completing this unit, the learner will be able to:

- know the components of the service sector in Kerala's economy
- understand the status of helath and education sector in Kerala
- discuss the contribution of tourism to state income
- identify the challenges related to the growth and sustainability of the service sector in Kerala

Background

The service sector plays a central role in Kerala's economy, contributing a major share to the Gross State Domestic Product (GSDP) and employment. Unlike many other Indian states where agriculture or industry dominates, Kerala has a service-led growth model. The state's progress in human development indicators is closely linked to the performance of key service sectors such as health, education and tourism.

Kerala has a well developed public health system that offers wide coverage and access to medical services. Educational institutions in the state have contributed to high literacy rates and skill development. Tourism, particularly in areas like ecotourism and health tourism, has emerged as an important source of income and employment. These sectors have a significant impact on the state's development, supporting livelihoods, improving quality of life and generating revenue through both domestic and international sources. Despite these strengths, the service sector also faces challenges such as infrastructure limitations, funding constraints and the need for technological upgrades. Understanding the structure and performance of the service sector is essential for assessing Kerala's overall economic and social progress.

Keywords

Service Sector, Health, Education, Tourism

Discussion

2.3.1 Service Sector in Kerala

The service sector forms the backbone of Kerala's economy, accounting for more 50 percent of the state's revenue and Gross State Domestic Product (GSDP). This significant contribution is driven by diverse key areas, including tourism, traditional Ayurveda and medical services, information technology (IT) and so on.. The sector's stability is underpinned by the state's existing strengths, a rich cultural heritage, appealing natural environment, and developing infrastructure supportive of high-tech industries

2.3.1.1 Health Sector

- Kerala tops in public healthcare

The Government of Kerala has made commendable advancements in strengthening the accessibility and quality of healthcare across the State. Emphasising equity, the healthcare framework has been particularly attentive to the needs of marginalised and vulnerable communities, aiming to reduce health disparities and extend targeted support where it is most essential. Kerala's healthcare infrastructure comprises an integrated network of primary, secondary and tertiary care facilities, facilitating comprehensive service delivery to its population. The State's strong public health initiatives are reflected in its outstanding health indicators, including high life expectancy, low infant and maternal mortality rates and a favourable gender ratio. These outcomes are indicative of the efficacy of Kerala's health policies and their successful implementation. As a result, Kerala consistently ranks as the top performing state in various editions of the NITI Aayog's Health Index among larger Indian states. This highlights its continued leadership in health sector performance at the national level.

Health Indicators of Kerala

- **Life Expectancy**: Life expectancy serves as a critical indicator for assessing the overall quality of life and the well being of a population. Kerala consistently reports the highest life expectancy figures in India, reflecting the effectiveness of its public health interventions and social development policies. According to recent estimates, the average life expectancy at birth in Kerala stands at 75 years, significantly above the national average of 70 years. The State continues to lead in both male and female life expectancy, with figures recorded at 71.9 years for males and 78.0 years for females. In comparison, the national averages for the same are 68.6 and 71.4 years, respectively. These statistics underscore Kerala's sustained commitment to improving health outcomes and enhancing the longevity and quality of life of its residents.

- Kerala leads in life expectancy

- **The Maternal Mortality Ratio (MMR)**: MMR is a key indicator used to evaluate maternal health and the effectiveness of healthcare systems in ensuring safe child birth. Kerala continues to demonstrate outstanding performance in this domain, recording the lowest MMR among all Indian states, with a ratio of 19 maternal deaths per 100,000 live births. This figure stands in sharp contrast to the national average of 97, highlighting the State's strong maternal health care infrastructure, widespread institutional deliveries and strong emphasis on antenatal and postnatal care.

- Kerala tops in low MMR

Kerala's success in reducing maternal mortality reflects its broader commitment to improving public health outcomes and advancing gender sensitive health care. The proportion of deaths occurring without medical attention from qualified professionals in Kerala remains significantly lower than the national average, amounting to less than one fourth of the national figure. Notably, 80.7 per cent of individuals in Kerala received medical care before death, either in government or private health care institutions, compared to only 48.7 per cent at the national level. Despite this commendable health care access, the State exhibits a marginally higher still birth rate relative to the national average, which may be attributed to the greater prevalence of institutional deliveries, thereby increasing the probability of accurate reporting. Additionally, Kerala maintains lower fertility rates in comparison to national statistics. It is also noteworthy that the incidence of live births without the presence of a qualified health care professional in Kerala is extremely low, recorded at just 0.1 per cent, in contrast to the national average of 7.8 per cent. These trends collectively underscore the State's emphasis on institutional

- Kerala ensures institutional maternal care health care and maternal safety.

- **Child Mortality at different levels**: Kerala continues to lead among Indian states in child health outcomes, particularly in terms of infant and child mortality indicators. It is the only large state in the country with a single digit Infant Mortality Rate (IMR), recorded at 6, compared to the national average of 28. Similarly, the under-five mortality rate in Kerala stands at 8, substantially lower than the national average of 32. Other mortality indicators such as the Perinatal Mortality Rate (PNMR), Early and Late Neonatal Mortality Rates (ENMR and LNNMR) and Post-Neonatal Mortality Rate (PNNMR), also remain well below national levels. These outstanding health outcomes can be attributed in large part to the near universal access to professional medical care during childbirth, with 99.9 per cent of deliveries in Kerala attended by qualified health personnel, compared to 82.6 per cent at the national level.

- Kerala has a low rate of child mortality

- **Fertility:** According to data from the National Family Health Survey 2019 – 20 (NFHS-5), Kerala exhibits progressive trends in key demographic indicators related to marriage and fertility. The median age at first marriage among women aged 25 – 49 years in the State is 21.5 years, reflecting a higher age at marriage compared to several other Indian states. Notably, the incidence of early marriage remains relatively low, with only 6 per cent of women aged 20 – 24 reporting marriage before the legal age of 18. In terms of marital status, 10.2 per cent of women aged 20 – 49 have never married, in contrast to 35.9 per cent of men in the same age group, indicating a gendered pattern in marriage trends. Kerala's Total Fertility Rate (TFR) stands at 1.5 children per woman, which is significantly below the national average of 2.0, highlighting the State's demographic transition and its alignment with population stabilisation goals.

- Low fertility, delayed marriage trends

Major Health Problems in Kerala

- Rising NCD burden in Kerala

Non-communicable diseases (NCDs) such as diabetes, hypertension, cardiovascular disorders, cancer and chronic respiratory conditions have emerged as major public health concerns, causing significant threats to population health in Kerala. With the State undergoing demographic transitions, including an ageing population and shifting lifestyle patterns, the burden of NCDs is projected to escalate in the absence of timely and effective preventive interventions. The economic implications of managing these diseases are particularly severe for low-income households, given the prolonged nature of treatment and the high cost of medications.

- NCD burden and lifestyle risks

Several behavioural and lifestyle factors have been identified as key contributors to the prevalence of NCDs in the State. These include inactive occupations, increased use of tobacco and alcohol, poor dietary habits, limited physical activity and elevated stress levels across socio-economic groups. Conditions such as obesity, hyperlipidemia, myocardial infarction and cerebrovascular accidents are increasingly reported. Notably, cancer related mortality among males in Kerala surpasses the national average. Findings from a survey conducted by the Achutha Menon Centre for Health Science Studies during 2016 – 17 indicate that approximately one-third of the population suffers from hypertension, while one in five individuals has diabetes. Furthermore, despite early detection and treatment, the success in achieving optimal control of blood glucose and blood pressure levels remains inadequate when compared to established clinical bench marks. These findings underscore the need for comprehensive health strategies focused on lifestyle modification, early diagnosis and continuous management of NCDs to reduce their long term impact.

2.3.1.2 Education

- Inclusive and high performing education system

Kerala's education system is widely recognised for its inclusivity and accessibility across all segments of society. The State has consistently demonstrated remarkable performance in educational and social development indicators, outperforming many other regions in India. With near universal literacy and widespread school enrolment, Kerala has established a robust educational infrastructure that ensures comprehensive coverage for children up to the age of 18.

The State has a high literacy rate, strong student enrolment figures and equitable representation of girls, Scheduled Castes (SC) and Scheduled Tribes (ST) in both schools and institutions of higher education. Dropout rates remain remarkably low, reflecting the effectiveness of retention and support strategies. The Government of Kerala, in collaboration with Local Self Government Institutions (LSGIs), has actively prioritised the provision of quality infrastructure and hygienic learning environments, thereby enhancing the overall academic

Equity and inclusion in education

experience. One of the significant achievements of Kerala's education policy is the attainment of gender parity in school enrolment, illustrating the State's commitment to promoting equity and inclusion in education. This success is indicative of a broader frame work that values education as a fundamental driver of social and economic development.

Literacy

Sustained progress in literacy

Literacy is widely acknowledged as a fundamental indicator of a nation's human capital and developmental potential. Kerala consistently ranks first among Indian states in terms of literacy, with a literacy rate of 94 percent, according to the Census of India (2011). This places it ahead of other high performing regions such as Lakshadweep (91.9 percent) and Mizoram (91.3 percent). The State's literacy achievements reflect a remarkable transformation from 47.2 percent in 1951, underscoring its sustained commitment to education over the decades.

Narrowed gender gap in literacy

A significant aspect of Kerala's literacy progress is the sharp decline in the gender gap. The difference in male and female literacy, which stood at 22 percentage points in 1951, had narrowed to just 4 percentage points by 2011. Kerala also leads the country in female literacy, with 92.1 percent of women being literate, in contrast to Bihar, which reports the lowest female literacy rate at 51.5 percent. Intra-state disparities in literacy within Kerala are minimal. District level data reveal that Kottayam (97.2 percent), Pathanamthitta (96.6 percent) and Ernakulam (95.9 percent) are the top performers, while Wayanad, though slightly behind, still maintains a relatively high literacy rate of 89 percent. These figures highlight Kerala's success in ensuring widespread access to education across geographic and social divisions.

Enrolment of Students

During the academic year 2024 – 25 (provisional), the total student enrolment in Kerala witnessed a marginal decline to 36.4 lakh, compared to 37.5 lakh in 2023 – 24. This decline is observable across all educational levels, with the most significant reduction occurring in the Lower Primary (LP) section. The primary factor contributing to this trend is the State's consistently low birth rate, which has resulted in a decreasing school age population. Despite this demographic shift, Government and Government-Aided schools in Kerala

- Decline in enrolment due to low birth rate

continue to attract new admissions. In 2024 – 25 alone, a total of 27,426 new students enrolled in these institutions. Over the past five years, Government and Aided schools have collectively registered 5,27,554 new admissions, reflecting sustained public trust in the quality and accessibility of education provided by these institutions.

Dropout rate

- Kerala leads in retention rates

Kerala has distinguished itself by maintaining the lowest school dropout rates among Indian states. According to the Ministry of Human Resource Development's report, Educational Statistics at a Glance - 2018, the national average dropout rates stand at 4.1% for primary education, 4.0% for upper primary and 17.1% at the secondary level. In contrast, Kerala's dropout rate has remained remarkably low, at 0.08% in 2023-24, consistent with the previous year. While dropout rates at the lower primary and high school levels are marginally higher than those at the upper primary level, there has been a notable decline in dropout rates across all stages of schooling. Specifically, the dropout rate for high school classes decreased from 0.2% in 2019-20 to 0.09% in 2023-24, reflecting the State's sustained efforts to improve student retention throughout the education system.

Universities and Collegiate Education

- Diverse and inclusive higher education

Kerala is home to 15 State universities, including four general universities - Kerala, Mahatma Gandhi, Calicut and Kannur - that offer a broad spectrum of academic programmes. The remaining universities focus on specialised disciplines: Sree Sankaracharya University of Sanskrit, Thunchath Ezhuthachan Malayalam University, Cochin University of Science and Technology, Kerala Agricultural University, Kerala Veterinary and Animal Sciences University, Kerala University of Health Sciences, Kerala University of Fisheries and Ocean Studies and Kerala Technological University. Established in 2020, Sree narayana guru Open University is Kerala's sole open university, with a mandate to provide inclusive education across diverse fields. Additionally, the Digital University, also founded in 2020, represents India's first institution dedicated to academic programmes and research in advanced digital technologies and emerging domains of knowledge. The National University of Advanced Legal Studies (NUALS), established in 2005, serves as the State government's sole university dedicated to legal education. Alongside these institutions, Kerala hosts a Central University located in the Kasaragod district. The State further benefits from the presence of premier national level institutions such as IIT Palakkad, IIM Kozhikode and AIIMS Trivandrum, which contribute significantly to higher education and research excellence.

- continue - 'play a vital role'

Strengthening the higher education sector has been a key focus of the Kerala government, as demonstrated by the establishment of three high level commissions dedicated to its reform. Notably, the Shyam Menon Commission proposed a comprehensive overhaul of the State's higher education system, including the creation of Centres of Excellence aimed at elevating academic standards and fostering advanced research initiatives. In addition, the "Study in Kerala" initiative represents a strategic effort to position the State as a prominent destination for higher education, particularly targeting international students, thereby increasing Kerala's global academic presence.

2.3.1.3 Tourism

- Kerala's inclusive tourism development

Kerala holds the distinction of being the first state in India to accord tourism the status of an industry. Kerala's tourism success is mainly due to the strong teamwork between different groups, led by the State Government. Through sustained, innovative and ethically grounded interventions, the Government of Kerala has fostered equitable economic returns while simultaneously promoting social inclusion and environmental responsibility. Strategic focus areas have included the systematic development of tourism infrastructure and destinations, targeted promotion of tourism products and the formulation of traveller friendly policies aimed at enhancing the overall visitor experience.

- Growing economic contribution of tourism

The 14th Five Year Plan of the state has prioritised several critical dimensions of tourism development, especially the enhancement of destinations, advancement of skill sets and employment opportunities, diversification of tourism products, promotion of responsible tourism practices and the establishment of effective financing mechanisms. The plan demonstrates the importance of evolving strategic approaches adaptive to contemporary trends and challenges within the tourism sector. Over the years, tourism has emerged as a vital contributor to Kerala's economy. In the year 2023 alone, the sector generated a total revenue, both direct and indirect, amounting to ₹43,621 crore, reflecting its substantial economic impact.

Foreign Tourist

- Top foreign visitors to Kerala

In 2023, for the second consecutive year, Kerala recorded the highest arrival of foreign tourists from the United States, accounting for 12.7 percent of total international arrivals. This was followed by the United Kingdom (12.3 percent) and Oman (6.2 percent). Other notable source countries included France (5.8 percent), Germany (5.4 percent) and the Maldives (5.7 percent). Nations from the Middle East, particularly Oman, Saudi Arabia and the United Arab Emirates, also played a significant role in contributing to foreign tourist arrivals. Notably, over 30 percent of international tourists visiting Kerala in 2023 originated from countries outside the top twelve source markets.

- Ernakulam, Thiruvananthapuram register highest tourist arrivals

In recent years, the districts of Ernakulam and Thiruvananthapuram have consistently attracted the highest number of foreign tourist arrivals in Kerala. In 2023, Ernakulam witnessed a significant increase, with 2.8 lakh international tourists, up from 1.9 lakh in 2022. Thiruvananthapuram also experienced a notable rise, registering 1.5 lakh foreign visitors in 2023, compared to 81,916 in the previous year. Substantial growth was also observed in Idukki, which recorded 1,03,644 foreign tourist arrivals and Kasaragod, with 2,291 visitors. Conversely, the districts of Pathanamthitta (941) and Palakkad (1,069) reported the lowest figures for international tourist inflow in 2023.

Domestic Tourists

- Domestic tourism revives post-pandemic via new models such as caravan tourism and reviving existing boat leagues

Kerala recorded substantial growth in domestic tourist arrivals during the post-pandemic recovery phase, with a 51.1 percent increase in 2021 and an exceptional 150 percent surge in 2022, the highest annual growth rate in the past decade. In 2023, domestic tourism continued its upward trajectory, registering 2.18 crore visitors, up from 1.88 crore in 2022. This upward trend underscores the resilience and revival of domestic tourism in the state following the disruptions caused by the COVID-19 pandemic. The Government of Kerala has played a pivotal role in this resurgence by organizing a series of large scale cultural events such as Onam celebrations, traditional boat races and regional fairs. In addition, targeted domestic marketing campaigns, the introduction of novel tourism models such as caravan tourism, the revival of the Champions Boat League and the hosting of unique events like the Beypore Water Fest have collectively enhanced the appeal of the state to domestic travellers.

- Intra-state dominance in tourism trends

As of June 30, 2024, the number of domestic tourist arrivals reached 10.9 lakh, reflecting a 1.6 percent increase compared to the same period in 2023, which recorded 10.7 lakh visitors. These trends highlight the effectiveness of the state's strategic tourism initiatives in stimulating domestic travel demand. An analysis of domestic tourist arrivals in Kerala by state of origin indicates that a significant portion of visitors continue to be intra-state travellers. In 2023, approximately 68.5 percent of domestic tourists originated from within Kerala, compared to 71.6 percent in 2022. Among inter-state sources, Tamil Nadu accounted for the highest share at 10.4 percent in 2023, followed by Karnataka with 6.6 percent and Maharashtra with 3.6 percent. These three states also ranked highest in terms of external tourist contributions in the preceding year, reflecting consistent travel patterns from neighbouring and major metropolitan regions.

- foreign exchange earning via tourism shows an upward trend

In 2023, Kerala's tourism sector generated a total revenue of ₹43,621.22 crore, encompassing both direct and indirect earnings. This reflects a substantial growth of 24 percent compared to the ₹35,168.4 crore recorded in 2022. A notable rise was also observed in foreign exchange earnings, attributable to both international and domestic tourist activities. In 2023, foreign exchange earnings reached ₹5,245 crore, marking a significant increase from ₹2,792.4 crore in the previous year. Similarly, earnings from domestic tourists rose to ₹28,717.5 crore in 2023, up from ₹24,589 crore in 2022, indicating a strong post-pandemic recovery in tourism-driven income.

2.3.2 Importance of the Service Sector in the State

- Service sector drives Kerala's economy

Since the 1990s, the service sector has become a major pillar of Kerala's economy, driving growth and employment. Economic liberalisation and policy reforms opened avenues for expansion in areas such as education, health care, tourism, finance and information technology. The establishment of IT hubs like Technopark and Cyberpark significantly boosted the state's IT and IT enabled services, positioning Kerala as an emerging destination for technology and innovation.

Service sector growth and resilience

In recent years, the service sector has continued to expand, with increased contributions from tourism, health care and digital services. The rise of start-ups and the Kerala Start-up Mission have further energised the sector, encouraging entrepreneurship and innovation. Despite challenges posed by global economic fluctuations and the COVID-19 pandemic, the sector has shown resilience by adapting through digital transformation and diversified service offers.

- service sector is expanding via digital transformations and start up initiatives

Currently, the service sector remains critical for Kerala's employment generation and growth of revenue. It supports a large work force, especially among educated youth and contributes significantly to the state's high human development indicators. Continued investment in skill development, infrastructure and technology is essential to sustain and enhance the sector's role in Kerala's evolving economy.

Summarised Overview

The service sector in Kerala includes diverse activities, with health, education, and tourism standing out as its primary contributors. The health sector is marked by Kerala's strong emphasis on equity and accessibility, ensuring healthcare for marginalised communities through an extensive network of primary, secondary, and tertiary institutions. The state leads the nation in key health indicators: life expectancy is the highest in India (75 years versus 70 nationally), maternal mortality ratio is the lowest (19 per 100,000 live births compared to 97 nationally), and child mortality rates are the lowest among large states, with an Infant Mortality Rate of 6 against the national 28. Institutional deliveries cover nearly the entire population, and fertility rates have fallen to 1.5, reflecting demographic transition. However, Kerala faces a rising burden of non-communicable diseases such as diabetes, hypertension, cancer, and cardiovascular disorders, driven by lifestyle changes and ageing demographics, creating long-term challenges for the health system.

The education sector is characterised by inclusivity, high literacy, and equitable access. Kerala has achieved a literacy rate of 94%, with a minimal gender gap compared to earlier decades. School enrollment is widespread, with girls, Scheduled Castes, and Scheduled Tribes well represented. Dropout rates are the lowest in India at 0.08%. Although total student enrolment has slightly declined due to a falling birth rate, government and aided schools continue to attract new students. Higher education has been strengthened through 15 state universities, a central university, and premier national institutes, along with reforms such as the Shyam Menon Commission and the "Study in Kerala" initiative, which aims to enhance global visibility.

The tourism sector enjoys the unique distinction of being formally recognised as an industry in Kerala. Its growth is driven by collaborative efforts between the government and stakeholders, focusing on responsible tourism, infrastructure, and skill development. In 2023, tourism generated ₹43,621 crore in revenue. Foreign arrivals were dominated by visitors from the United States, United Kingdom, and Oman, with Ernakulam and Thiruvananthapuram leading in arrivals. Domestic tourism rebounded strongly post-pandemic, recording 2.18 crore visitors in 2023. Events such as Onam celebrations, boat races, and cultural festivals, alongside innovative models like caravan tourism, have revitalised the sector.

Kerala's service sector showcases strong achievements in health, education, and tourism, though it also faces structural challenges such as demographic shifts, lifestyle-related diseases, and the need for sustainable growth in higher education and tourism.

Assignments

1. Explain the role of the service sector in Kerala's economy.
2. Evaluate the impact of Kerala's healthcare system on the development of the state.
3. How has Kerala achieved high literacy rates in education? explain the persisting challenges?
4. Analyse the contribution of tourism to Kerala's state income and employment generation.
5. Discuss the main challenges faced by Kerala's service sector in sustaining its growth.

Suggested Reading

1. B. A. Prakash (Ed.) (2004) *Kerala's Economic Development: Performance and Problems in the Post-Liberalisation Period*. Sage Publications, New Delhi.
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3. P. Surendran (2002) *The Kerala Economy Growth and Survival*, Vrinda Publication.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

BLOCK 3

State Finance

UNIT 1 Revenue Expenditure and Fiscal Trends in Kerala

Learning Outcomes

After completing this unit, learners will be able to:

- describe the major sources of revenue and expenditure of Kerala
- discuss the trends in fiscal deficit, revenue deficit, and debt
- know the significance and implications of off-budget borrowings
- asses the policy framework and fiscal responsibility legislation in Kerala

Background

The dawn of economic liberalisation in India in 1991 signalled a historic shift in the country's economic path. Triggered by a balance of payments crisis, the Government of India, with support from international institutions like the IMF and World Bank, initiated a structural adjustment programme centred on Liberalisation, Privatisation, and Globalisation (LPG). These reforms drastically reduced state intervention, opened up markets to global competition, and redefined the role of the public sector in the economy.

For Kerala, a state deeply embedded in a welfare centric policy structure and heavily dependent on remittance income from the Middle East, the implications of these reforms were both deep and complex. Unlike the industrially aggressive models adopted by other Indian states after liberalisation, Kerala faced the dilemma of coordinating its strong public sector presence and social spending commitments with the competitive character of a liberalised economy. The state's unique demographic transition, political mobilisation, and human development orientation made this transition complex.

Moreover, Kerala's economic identity, built on a service sector led growth model, limited industrialisation, and high levels of outmigration, was fundamentally different from the rest of the country. As the state navigated through the pressures of macroeconomic reforms, its policy responses highlighted the challenges of aligning fiscal discipline with inclusive development.

Keywords

Revenue Receipts, Capital Receipts, Revenue Expenditure, Capital Expenditure, Fiscal Deficit, Revenue Deficit, Public Debt, Off-Budget Borrowing, KIIFB, FRBM Act

Discussion

3.1.1 Sources of Revenue and Expenditure of the State

- Kerala's fiscal imbalance and borrowing burden

State finance refers to the management of revenue and expenditure by the state government in order to deliver public services, maintain infrastructure, and promote economic development. In the case of Kerala, a state known for its strong social indicators, understanding the composition and trends of revenue and expenditure is crucial to assessing fiscal sustainability and policy effectiveness. Revenue for the state comes from two broad categories: own revenue and transfers from the Centre. Similarly, state expenditure is categorised into revenue expenditure (day-to-day operations and committed liabilities) and capital expenditure (infrastructure and asset creation). The persistant imbalance between income and expenditure has led to a consistenly high giscal deficit in Kerala, necessitating continuous borrowing and pushing the state towards a critical debt path.

State revenue comprises:

- **Own Tax Revenue**: Taxes collected directly by the state like Sales Tax/VAT, State GST, Excise Duty, Motor Vehicle Tax, Stamp Duty, and Registration.
- **Own Non-Tax Revenue**: Income from services provided by the state, such as interest receipts, fees, fines, and profits from public enterprises.

Table 3.1.1 Revenue Receipts of Kerala (2015-2025) (*in crore)*

The major sources of revenue are as follows:

Year	State's Own Tax Revenue	Share of Central Taxes	State's Own Non-Tax Revenue	Grants-in-Aid from Centre	Total Revenue Receipts
2015-16	45,428.03	13,121.77	8,931.12	9,946.28	77,427.20
2016-17	47,043.61	14,827.75	10,859.52	11,361.72	84,092.60
2017-18	51,876.35	16,833.08	11,199.61	8,527.84	88,436.88
2018-19	62,427.34	19,038.17	11,783.24	11,388.96	1,04,637.71
2019-20	62,588.36	16,401.05	12,265.22	11,235.26	1,02,489.89
2020-21	54,988.15	11,560.40	7,327.31	31,068.28	1,04,944.14
2021-22	68,803.03	17,820.09	10,462.51	30,017.12	1,27,102.75
2022-23	87,086.11	18,260.68	15,117.96	27,377.86	1,47,842.61
2023-24	93,891.31	21,285.56	2,215.77	11,660.19	1,29,052.83
2024-25	1,03,239.96	23,882.40	4,751.00	35,415.20	1,67,288.56

Source: Kerala Budget, Kerala Economic Review, Budget Speeches, Finance Accounts, CAG Reports

- Kerala's revenue sources and central transfers

Central transfers include:

- **Share in Central Taxes**: As per the Finance Commission recommendations.
- **Grants-in-Aid**: Funds transferred for schemes or as compensation (like GST shortfall).

- State's tax revenue growth

The table 3.1.1 presents the trend in the revenue receipts of the state over a decade, highlighting both its own efforts in raising resources and the support it receives from the Union government. The largest component throughout this period has been the state's own tax revenue, which shows a steady rise from ₹45,428 crore in 2015–16 to more than ₹1,03,000 crore by 2024 – 25. This indicates a significant expansion in the state's tax base and efficiency in collection, although the growth has not been uniform every year. For instance, in 2019–20 and 2020–21 there was little progress, reflecting the stagnation that set in during the pandemic period when economic activity slowed and tax collections weakened. Alongside this, the share of central taxes transferred to the state also rose, moving from around ₹13,000 crore in 2015–16 to nearly ₹24,000 crore by 2024–25. These transfers are determined by the recommendations of the Finance Commission and they reflect both national revenue performance and the state's entitled share. The variation across years, such as the fall in 2020–21, mirrors the overall slowdown in the Indian economy when central collections shrank.

- Non-tax revenue volatility

Non-tax revenue, which includes items such as fees, user charges, returns from state enterprises, and other miscellaneous receipts, shows a more uneven pattern. It rose steadily until 2022–23 when it touched over ₹15,000 crore, but fell sharply in 2023–24 before recovering slightly the following year. Such fluctuations are common in this category since many of its components are dependent on specific economic activities, royalties, or one-time receipts. Grants-in-aid from the centre have played a decisive role in some years, particularly during and after the pandemic. While these hovered around ₹10,000–12,000 crore in the earlier years, they rose to more than ₹31,000 crore in 2020–21 and again touched over ₹30,000 crore in 2021–22, reflecting central support to deal with the crisis. By 2024–25, the grants again rose substantially, crossing ₹35,000 crore. This shows the critical role of fiscal transfers in stabilising state finances during times of stress.

- Total revenue doubles its value

When all these components are taken together, total revenue receipts grew from about ₹77,000 crore in 2015–16 to nearly ₹1.67 lakh crore in 2024–25. This shows a clear upwards movement, though marked by periods of stagnation or sudden jumps linked to broader national and global developments. This table offers a window into how state finances are not shaped only by its own taxation and administrative capacity, but also by the wider economic environment and the nature of fiscal federalism in India. It is a reminder that states depend on a delicate balance between their own revenue mobilisation and the timely support of the centre to meet their expenditure responsibilities.

- Rising development expenditure with welfare focus

The expenditure figures show how the state has been allocating and using its financial resources over the last decade. A large share of spending is directed towards revenue expenditure, which includes both development and non-development purposes. Development expenditure represents the spending on sectors such as education, health, agriculture, infrastructure, and welfare programmes. This has steadily increased from about ₹47,800 crore in 2015–16 to nearly ₹82,000 crore by 2024–25, though the growth has not been uniform. The rise in 2020–21 and 2021–22 reflects additional commitments during the pandemic years when social sectors and welfare schemes

Table 3.1.2 Expenditure of Kerala (2015-2025) *(in crore)*

Year	Development Expenditure (Revenue)	Non-Development Expenditure (Revenue)	Total Revenue Expenditure	Capital Expenditure	Total Expenditure
2015-16	47,802.71	37,456.41	85,259.12	9,220.16	95,324.77
2016-17	51,323.96	42,666.09	93,990.06	9,572.90	1,04,303.54
2017-18	61,500.81	52,979.52	1,14,480.33	10,289.46	1,25,572.63
2018-19	64,141.71	56,788.00	1,20,929.71	7,232.58	1,28,162.29
2019-20	55,877.39	47,550.18	1,03,427.57	8,297.38	1,11,724.95
2020-21	83,853.81	71,223.99	1,55,077.80	12,629.81	1,67,707.61
2021-22	87,950.32	74,026.85	1,61,977.17	13,923.47	1,75,900.64
2022-23	70,960.67	80,157.87	1,51,118.54	14,893.62	1,66,012.16
2023-24	72,447.87	79,203.04	1,51,650.91	14,605.53	1,66,256.44
2024-25	81,985.79	84,515.42	1,66,501.21	15,664.12	1,82,165.33

Source: Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports

required greater support. After some moderation in 2022–23 and 2023–24, development expenditure again picked up in 2024–25, underlining the state's continued focus on welfare and human development.

- Steady rise in obligatory non-development spending

Non-development expenditure, which includes salaries, pensions, interest payments, subsidies, and administrative costs, has also grown significantly over the years. From about ₹37,000 crore in 2015–16, it rose steadily to cross ₹84,000 crore by 2024–25. The steady increase in this component reflects the structural nature of such expenses, which are often obligatory and difficult to reduce. In several years, especially after 2020, non-development spending has grown faster than development spending, indicating the pressure of committed expenditure such as pensions and debt servicing on the state budget.

When both development and non-development expenditure are combined, total revenue expenditure rose from about ₹85,000 crore in 2015–16 to over ₹1.66 lakh crore in 2024–25. The rise in 2020–21 is particularly notable, when revenue expenditure climbed to more than ₹1.55 lakh crore, owing to the extraordinary demands of pandemic management, health emergencies, and welfare interventions. This level of spending has remained high since then, signalling a structural rise in the state's expenditure commitments. Alongside revenue expenditure, capital expenditure, spending on creating long-term assets such as roads, buildings, irrigation projects, and other infrastructure, has also shown gradual growth. It increased from just over ₹9,200 crore in 2015–16 to nearly ₹15,700 crore in 2024–25. Though this appears as a rise, it is modest compared to the growth in revenue expenditure, and indicates that much of the state's financial resources are absorbed by recurring expenses rather than asset creation. Overall, total expenditure has expanded significantly from ₹95,000 crore in 2015–16 to more than ₹1.82 lakh crore in 2024–25. This shows how the state has been caught between the need to expand development expenditure to meet social and economic goals and the rising burden of non-development expenditure, which leaves less fiscal space for productive capital spending. This table highlights the central challenge of state finances: balancing welfare and administrative commitments with the need for sustainable investment in infrastructure and long-term growth.

- High revenue spending limits capital investment

The pattern of Kerala's revenue and expenditure over the past decade reveals the balance the state must maintain between mobilising resources and meeting growing expenditure commitments. While own tax revenue has shown consistent progress and central transfers and grants have provided support, the rise in revenue expenditure, driven largely by welfare measures, salaries, pensions, and interest payments, has placed continuous pressure on the state's finances. At the same time, capital expenditure, though increasing, has remained relatively modest compared to recurring costs, limiting the state's ability to expand infrastructure and long-term productive assets. This combination highlights the structural challenges of Kerala's fiscal system, where development aspirations, social welfare commitments, and fiscal sustainability must be carefully aligned. This case of Kerala provides an important example of how revenue sources and expenditure responsibilities interact to shape the overall health of a state's economy.

- Kerala's fiscal pressures constrain capital growth

3.1.2 Fiscal Deficit and Fiscal Crisis in Kerala

Fiscal deficit is the key indicator of a government's financial health. It occurs when the government's total expenditure exceeds the sum of its revenue receipts and non-debt capital receipts in a given financial year. In other words, it reflects the amount the government needs to borrow to meet its budgetary obligations. A high fiscal deficit implies increased borrowing,

- High fiscal deficit affects future development and debt targets

leading to mounting public debt and interest payments, which could constrain future developmental expenditure. In the context of Indian states, the Fiscal Responsibility and Budget Management (FRBM) Act recommends that the fiscal deficit does not exceed 3% of the state's Gross State Domestic Product (GSDP).

The following table shows the trend of key deficit indicators in Kerala from the fiscal year 2015-16 to 2024-25.

Table 3.1.3 Deficit Indicators of Kerala (2015-2025) *(in crore)*

Year	Revenue Deficit	Fiscal Deficit	Primary Deficit
2015-16	-7,831.92	-17,699.25	-6,747.15
2016-17	-9,897.46	-19,971.08	-7,341.13
2017-18	-26,043.45	-23,494.61	-9,380.12
2018-19	-16,292.00	-24,204.09	-8,220.19
2019-20	-937.68	-22,818.10	-4,379.80
2020-21	-50,133.66	-40,392.21	-18,740.71
2021-22	-34,874.42	-43,767.87	-21,189.57
2022-23	-3,275.93	-38,719.55	-13,034.40
2023-24	-22,598.08	-44,387.67	-17,203.61
2024-25	787.35	-44,529.35	-15,773.81

Source: Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports

- Revenue deficit signals fiscal stress

The table above shows the pattern of Kerala's revenue deficit, fiscal deficit, and primary deficit over the last decade, offering a clear picture of the stress in the state's finances. A revenue deficit means that the government's revenue expenditure is greater than its revenue receipts. In other words, the state is spending more than it earns through its regular income such as taxes and grants. Except for the small surplus in 2024–25, Kerala has been running a revenue deficit in all the years, with the problem becoming severe in 2017–18 and again in 2020–21 when the deficit touched over ₹50,000 crore. These years reflect situations where the government had to borrow not only to build new assets but also to finance its daily operations and welfare commitments, which is a sign of fiscal stress.

The fiscal deficit represents the overall gap between the government's total expenditure and its total revenue, including borrowings. This indicator has remained persistently high throughout the period, ranging between ₹17,000 crore in 2015–16 and nearly ₹45,000 crore in 2024–25. A fiscal deficit of this scale indicates a continued dependence on debt to bridge the mismatch between income and spending. The widening of the fiscal deficit during and after the pandemic years further shows how external shocks can deepen the imbalance. The problem is not temporary, as the figures reveal a structural gap that has continued over time. The primary deficit, which excludes interest payments on past loans, highlights whether the government will still be in deficit if it did not have to repay interest. Kerala's primary deficit has been negative throughout the years, ranging from around ₹6,700 crore in 2015–16 to over ₹21,000 crore in 2021–22. This shows that even without the burden of interest payments, the state has been spending more than it earns. The persistence of a primary deficit shows that the crisis is not just about debt servicing but also about the scale of committed expenditure compared with limited revenue growth.

- High fiscal and persistent primary deficits

Kerala's high fiscal deficit is the outcome of several interconnected factors. Although the state's own tax revenue has increased over the years, it has not grown quickly enough to match the expenditure, mainly due to difficulties in widening the tax base and ensuring effective compliance. On the expenditure side, a large share is consumed by committed payments such as salaries, pensions, and interest, which leaves very little room for productive capital investment. The burden is compounded by Kerala's relatively high number of government employees and pensioners, with periodic pay revisions adding to the strain. At the same time, the state's strong focus on social sector spending, particularly in education and health, has contributed to its remarkable achievements in human development, but has also placed continuous pressure on its finances. In addition, Kerala's heavy dependence on central transfers, including the share of union taxes and grants, makes its fiscal position vulnerable to any decline or delay in such flows. Together, these factors explain the persistence of large fiscal deficits in the state.

- Strain of rising expenses and limited revenue

Whether Kerala is truly in a fiscal crisis is a matter that demands careful interpretation rather than a simple label. On the one hand, there are clear warning signs. The state's debt-to-GSDP ratio is high and has remained so for years, drawing repeated attention in official economic reviews. Much of the state's spending is locked into revenue expenditure on committed items such as salaries, pensions, and interest payments, leaving limited fiscal space for capital investments that could strengthen infrastructure and promote long term growth. The weight of interest payments alone consumes a considerable portion of the state's revenue, reducing the funds available for development initiatives. These structural imbalances, if left unaddressed, could slow economic progress and deepen fiscal stress. On the other hand, there are strong counterpoints to the idea of an immediate crisis. Kerala's high levels of social sector spending have yielded exceptional human development outcomes, with some of the best indicators in the country, reflecting a strategic investment in human capital. Borrowed funds are not solely used to meet recurring expenses; economic reviews note that a portion is directed towards capital formation and infrastructure, which can support sustainable economic growth over time. Additionally, while revenue mobilisation has its challenges, the state has taken steps to strengthen tax administration and tap new revenue sources, providing a more stable foundation for the future. This combination of strengths and vulnerabilities suggests that Kerala's fiscal position is under significant strain but not beyond recovery.

- Kerala is facing a severe fiscal strain, but not insolvency

The situation calls for wise fiscal management, targeted reforms, and a balance between meeting present welfare needs and ensuring future fiscal sustainability, rather than a blanket declaration of crisis. While Kerala faces significant fiscal challenges, a full blown crisis may be an overstatement. The state's high social sector spending is a conscious policy choice that has yielded positive results in human development. However, the government needs to address the structural issues of high revenue expenditure and stagnant revenue growth to ensure long-term fiscal sustainability.

- Fiscal prudence needed for sustainable future

3.1.3 Off-Budget Borrowing

Off-budget borrowings represent a significant and contentious aspect of Kerala's public finance management. These are loans that are not taken directly by the state government but by its public sector undertakings (PSUs) or specially created entities known as Special Purpose Vehicles (SPVs). While these borrowings do not appear in the state's annual budget statements, the ultimate responsibility for repayment, including both principal and interest, rests with the government. This financial strategy has allowed the state to

- Funds sources off budget loans

fund major development projects and welfare schemes that would otherwise be constrained by fiscal rules, but it has also raised serious concerns about fiscal transparency and debt sustainability in the long term.

- Government of Kerala has utilised SPVs to raise funds from the market

To navigate the borrowing limits set by the Central Government under Article 293(3) of the Constitution, the Government of Kerala has utilised SPVs to raise funds from the market. These entities borrow against the strength of the state government's guarantees and its commitment to providing future revenue streams for debt servicing. The two most prominent entities in this framework are the Kerala Infrastructure Investment Fund Board (KIIFB) and the Kerala Social Security Pension Limited (KSSPL).

- KIIFB raises funds by issuing various bonds and securing loans from financial institutions

- **Kerala Infrastructure Investment Fund Board (KIIFB):** KIIFB was revitalised in 2016 to act as the primary agency for funding large scale, critical infrastructure projects in the state. It raises funds by issuing various bonds (such as General Obligation Bonds, Revenue Bonds, and Masala Bonds) and securing loans from financial institutions. To ensure a dedicated revenue stream for debt servicing, the government has legally committed a portion of the Motor Vehicle Tax and the entire Petroleum Cess collected in the state to KIIFB. This ring fencing of revenue is intended to provide confidence to investors and credit rating agencies.

- KSSPL ensures the timely and uninterrupted disbursement of social security pensions

- **Kerala Social Security Pension Limited (KSSPL):** Formed in 2018, the KSSPL was established with the specific objective of ensuring the timely and uninterrupted disbursement of social security pensions. It does this by borrowing funds from a consortium of cooperative banks. The state government, in turn, is obliged to repay these loans, effectively using the SPV as a tool to manage its cash flow and meet its welfare commitments without immediate budgetary strain.

- Off-budget borrowings bypass limits to fund capital projects

The state government's rationale for resorting to off-budget borrowings is primarily to bypass the restrictive borrowing ceilings imposed by the Centre. These limits, tied to the state's Gross State Domestic Product (GSDP), often leave little room for substantial capital investment after meeting committed revenue expenditure like salaries and pensions. The Economic Reviews note that this mechanism was seen as an innovative way to "overcome the fund constraints for capital expenditure" and fast track development.

The CAG has repeatedly criticised the state's off-budget borrowings. In its reports, the CAG has argued that these loans are, in substance, the liabilities of the state government and should be reflected in the budget. It has pointed out that the creation of SPVs to borrow from the market is a way of bypassing constitutional provisions and that the debt service commitments create a significant lien on future government revenues. Echoing the CAG's concerns, the Central Government has taken steps to include these off-budget liabilities when calculating Kerala's net borrowing ceiling. Since the fiscal year 2022-23, the Centre has considered these borrowings as direct loans taken by the state, thereby reducing the amount Kerala can borrow from the market through conventional channels. This has significantly curtailed the state's ability to raise funds through KIIFB and KSSPL and has become a major point of fiscal friction between the Centre and the State.

- CAG flags off-budget debt

Table 3.1.4 Off-Budget Borrowings in Kerala (2016-2024) *(in crore)*

Fiscal Year	KIIFB Funds Mobilised	KSSPL Funds Mobilised	Total Off-Budget Borrowings
2016-17	1,847.46	-	1,847.46
2017-18	3,113.12	-	3,113.12
2018-19	3,066.82	7,100.00	10,166.82
2019-20	12,398.71	9,335.00	21,733.71
2020-21	10,217.16	12,028.00	22,245.16
2021-22	3,252.00	10,488.35	13,740.35
2022-23	2,000.00	7,426.00	9,426.00
2023-24	2,000.00	4,000.00	6,000.00

Source: Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports

The figures on off-budget borrowings in Kerala show how the state has increasingly relied on funding mechanisms outside the regular budget to meet its expenditure needs. Two main agencies have been used for this purpose: the Kerala Infrastructure Investment Fund Board (KIIFB) and the Kerala Social Security Pension Limited (KSSPL). KIIFB was created to mobilise resources for large infrastructure projects, while KSSPL has been used mainly to finance social security pensions. Together, they allow the state to raise funds without these borrowings appearing directly in the budget deficit figures, but the liabilities still add to the overall debt burden.

- KIIFB and KSSPL drive hidden debt

The pattern over the years shows a steady increase in the scale of such borrowings, particularly from 2018–19 onwards. That year marked the entry of KSSPL into the picture, and the total off-budget borrowings suddenly jumped to over ₹10,000 crore. The next two years witnessed even sharper increases, with more than ₹21,000 crore mobilised in 2019–20 and over ₹22,000 crore in 2020–21. These figures show the growing dependence on off-budget borrowings during a period when the state was facing heavy expenditure commitments and limited revenue growth, especially around the pandemic years. After peaking in 2020–21, the amounts have gradually declined, falling to about ₹6,000 crore by 2023–24. This fall reflects both the tighter scrutiny of off-budget practices and the state's effort to reduce reliance on such borrowings in response to criticism from supervisory bodies like the Comptroller and Auditor General (CAG). The table highlights the double-edged nature of off-budget borrowings: while they provide flexibility to finance infrastructure and welfare programmes without immediately crossing limits of fiscal deficit, they also increase the state's hidden liabilities, creating long-term repayment obligations that can aggravate the fiscal stress in the coming years.

- Off-budget borrowings peaked during the pandemic, now declining

The off-budget borrowings have had a great impact on Kerala's fiscal landscape. On one hand, they have enabled the financing of numerous infrastructure projects and ensured the continuity of welfare schemes. On the other hand, they have added to the state's overall debt burden, even if not explicitly shown in the budget. The liabilities created by these borrowings represent a future claim on the state's revenues, which could constrain fiscal flexibility in the years to come. The state government has argued that these borrowings are for productive capital assets that will generate future economic growth, but the challenge remains to ensure that the returns on these investments are sufficient to cover the long-term debt servicing costs.

- Off-budget borrowings fund growth but add debt

3.1.4 Fiscal Responsibility and Budget Management (FRBM) Act

The FRBM Act, first introduced by the Central Government of India in 2003, was a landmark legislation aimed at institutionalising financial discipline, reducing fiscal deficit, and improving macroeconomic management. The Act sought to ensure intergenerational equity in fiscal management by limiting the burden of public debt on future generations.

- FRBM Act ensures fiscal discipline

The central objectives of the FRBM Act include:

- Reducing the fiscal deficit to a sustainable level,
- Eliminating revenue deficit over time,
- Controlling the overall government debt as a share of GDP,
- Ensuring greater transparency in fiscal operations, and
- Promoting macroeconomic stability and investor confidence.

- FRBM targets debt control and transparency

Under this Act, both the Centre and States are expected to formulate their own FRBM rules, laying out specific annual targets for revenue deficit, fiscal deficit, and debt-to-GDP ratio. States were encouraged to enact their own FRBM Acts, adapting the Centre's vision to their unique fiscal contexts.

- Kerala FRBM Act faces implementation gaps

Kerala adopted its own version of the FRBM Act in 2003, becoming one of the earliest Indian states to implement such legislation. The Kerala Fiscal Responsibility Act, 2003 (KFRA), aimed to achieve key fiscal objectives, including limiting the fiscal deficit to no more than 3% of the Gross State Domestic Product (GSDP), eliminating the revenue deficit in a phased manner, capping public debt to sustainable levels (below 30% of GSDP), publishing annual Medium-Term Fiscal Policy Statements (MTFPS), and promoting greater budget transparency and fiscal caution. Over the years, the Act has been amended to accommodate fiscal stress and special circumstances, particularly following recommendations from the 13th and 14th Finance Commissions, which advocated a more flexible framework. The 15th Finance Commission further relaxed the rules to support capital investment while maintaining overall fiscal discipline. The implementation of the Kerala FRBM framework is overseen by the State Finance Department in consultation with the CAG, with regular submission of fiscal indicators to the State Legislature.

The FRBM indicators provide a framework to understand the fiscal health of a state in relation to its economic output. The revenue deficit, expressed as a percentage of GSDP, reflects the extent to which revenue expenditure exceeds revenue receipts. A high revenue deficit implies that the government is borrowing to meet its regular consumption needs, which is unsustainable in the long run, and the FRBM Act therefore mandates its elimination. The fiscal deficit, also measured as a share of GSDP, captures the total borrowing requirements of the government in a year. While a moderate fiscal deficit can support development spending, a persistently high level risks pushing the state into a debt trap, which is why the FRBM Act sets a ceiling, typically around 3% of GSDP. Equally important is the total debt-to-GSDP ratio, which shows the accumulated debt of the state relative to its overall economic output. A high ratio is a clear indicator of fiscal stress, as it means that a growing share of revenue will be absorbed by debt servicing, leaving fewer resources available for investment in development and essential public services.

- FRBM indicators track Kerala's fiscal stress

The following table presents the key FRBM indicators for Kerala from the fiscal year 2015-16 to 2024-25.

Table 3.1.5 Trends in Key FRBM Indicators (2015-2025) *(as a percentage of GSDP)*

Year	Revenue Deficit	Fiscal Deficit	Total Debt
2015-16	1.37%	3.10%	26.95%
2016-17	1.50%	3.03%	26.54%
2017-18	3.03%	4.93%	30.22%
2018-19	2.12%	4.41%	31.33%
2019-20	1.54%	3.94%	32.83%
2020-21	2.94%	4.88%	37.33%
2021-22	2.44%	4.11%	36.38%
2022-23	2.45%	3.61%	34.69%
2023-24	2.11%	3.48%	33.72%
2024-25	1.77%	3.40%	32.78%

Source: Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports

An analysis of Kerala's fiscal trends shows a strain in balancing revenue and expenditure. The state has consistently recorded a revenue deficit over the past decade, which points to a structural imbalance in its finances. Revenue receipts have not been sufficient to cover revenue expenditure, forcing the state to borrow even for meeting its day-to-day needs. Economic reviews repeatedly note that salaries, pensions, and subsidies account for much of this imbalance, and despite some year to year fluctuations, Kerala has not been able to meet the FRBM target of eliminating the revenue deficit. The fiscal deficit has also remained higher than the FRBM norm of 3% of GSDP through most of the period. This has been driven not only by the high revenue deficit, but also by the state's requirements for capital expenditure. In addition, external shocks such as the

2018 floods and the COVID-19 pandemic widened the fiscal gap further, demonstrating the vulnerability of state finances to unforeseen events. The rising debt-to-GSDP ratio shows the seriousness of the situation. In recent years, the ratio has crossed the 30% mark, signalling a heavy debt burden relative to the size of the state economy. With increased dependence on borrowing to finance deficits, the stock of debt has grown, and the interest payments on this debt now consume a large portion of revenue. This leaves limited fiscal space for development spending and highlights the long-term challenges in ensuring fiscal sustainability. The state needs to take efforts to augment its revenue, rationalise its expenditure, and adhere to a path of fiscal consolidation to ensure long-term fiscal sustainability.

- Kerala's rising deficits and debt strain sustainability

Summarised Overview

Finances of the state of Kerala over the past decade show rising revenues but mounting fiscal pressures. Own tax revenue grew steadily from ₹45,428 crore in 2015–16 to over ₹1,03,000 crore in 2024–25, with GST becoming the largest contributor. Central transfers, including grants and the share of union taxes, provided crucial support during crises, especially the pandemic, when grants crossed ₹30,000 crore. Overall, total revenue receipts nearly doubled to ₹1.67 lakh crore by 2024–25, highlighting both resource mobilisation and dependence on the Centre.

Expenditure has expanded even faster, dominated by revenue spending on welfare, salaries, pensions, and interest payments. Development expenditure rose to nearly ₹82,000 crore, but non-development costs grew faster, exceeding ₹84,000 crore by 2024–25. Capital expenditure rose only modestly, from ₹9,200 crore to about ₹15,700 crore, showing that recurring costs absorb most financial resources. Total expenditure crossed ₹1.82 lakh crore, leaving limited space for asset creation.

Deficit indicators reflect structural imbalances. Kerala has consistently run a revenue deficit, peaking above ₹50,000 crore in 2020–21, with fiscal deficits far exceeding the FRBM ceiling of 3% of GSDP. Primary deficits remained persistent, and the debt-to-GSDP ratio crossed 30%, with interest payments consuming a large share of revenue.

Off-budget borrowings through KIIFB and KSSPL helped fund infrastructure and pensions but created hidden liabilities, peaking above ₹22,000 crore in 2020–21 before declining under tighter scrutiny. The CAG and Centre now treat them as direct liabilities, restricting Kerala's borrowing space.

Overall, Kerala's fiscal profile reflects strong social spending and human development achievements but also high deficits, rising debt, and limited capital investment. Future sustainability requires broadening the tax base, improving efficiency, rationalising non-essential expenditure, and adhering to fiscal discipline while balancing welfare needs with long-term growth.

Assignments

1. Discuss the primary sources of revenue for the Government of Kerala.
2. Explain the trends in Kerala's public expenditure from 2015 to 2025.
3. Analyse the fiscal deficit situation in Kerala and suggest policy measures.
4. What are off-budget borrowings? How have they impacted Kerala's debt profile?
5. Evaluate the role and effectiveness of the FRBM Act in Kerala.

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Centre–State Finance, Fiscal Federation and GST

Learning Outcomes

After completing this unit, learners will be able to:

- describe the historical and structural evolution of Centre–State financial relations
- discuss the functions and constitutional role of the Finance Commission
- know the recommendations of the 15th Finance Commission.
- discuss the principles of fiscal federalism in India
- understand the impact of GST on tax sharing between Centre and States

Background

The financial relationship between the Union and State governments in India is one of the most defining features of the country's federal structure. While the Constitution carefully divides legislative, administrative, and financial powers, in practice, States often find themselves navigating significant vertical and horizontal fiscal imbalances. This is especially true in Kerala, a State known for its ambitious social welfare programmes, ageing population, and high revenue expenditure. The tensions and trade-offs between autonomy and dependency, flexibility and control, equity, and efficiency, play out effectively in this federal fiscal space.

The story of Centre–State financial relations in India is closely linked with the broader path of nation-building, economic liberalisation, and structural reforms such as GST. Institutions like the Finance Commission have been key to adjusting the fiscal compact every five years. The emergence of the GST regime, declining central grants, and growing fiscal pressures have raised new questions about the adequacy and fairness of financial devolution. Kerala's experience adds an informative dimension to this, as it struggles with limited capacity for resource mobilisation and increasing dependence on transfers while seeking greater financial autonomy.

Keywords

Finance Commission, Fiscal Federalism, Tax Devolution, 15th Finance Commission, Vertical Devolution, Horizontal Distribution, GST Compensation, Fiscal Autonomy, Revenue Deficit

Discussion

3.2.1 Centre-State Financial Trends in India and Kerala

- Vertical fiscal imbalance drives transfers

India follows a quasi-federal structure where the Union and State Governments have distinct revenue raising powers and expenditure responsibilities as defined in the Constitution. However, the revenue generating capacities of the Centre far exceed those of the states, while the states bear the lion's share of spending responsibilities, particularly in sectors such as health, education, agriculture, and welfare. This structural mismatch results in what is termed a vertical fiscal imbalance, necessitating the periodic transfer of resources from the Centre to the states. These intergovernmental financial flows are facilitated through various instruments such as the Finance Commission's recommendations, tax devolution, grants-in-aid, and centrally sponsored schemes. The purpose of these transfers is not only to correct fiscal asymmetries but also to ensure a degree of horizontal equity across states with differing levels of development.

- Fiscal stress despite social progress

Kerala's experience in this federal financial system is unique. Despite being one of the most socially advanced states with a high Human Development Index (HDI), Kerala finds itself at a disadvantage in fiscal transfers due to the criteria adopted by recent Finance Commissions, which sometimes penalise states that have performed well in population control and social indicators. This paradox lies at the heart of Kerala's fiscal debates. In recent years, especially between 2015 and 2025, Kerala has faced increasing fiscal stress due to shrinking central transfers, the expiry of GST compensation, and limits imposed on borrowings. At the same time, the state has had to expand social welfare schemes, respond to natural disasters like floods and the COVID-19 pandemic, and maintain public sector commitments.

Table 3.2.1 Centre transfers to Kerala *(in crore)*

Financial Year	Tax Devolution	Grants-in-Aid	GST Compensation	Total Transfers
2015-16	13,121.77	9,946.28	-	23,068.05
2016-17	14,827.75	11,361.72	-	26,189.47
2017-18	16,833.08	8,527.84	2,897.00	28,257.92
2018-19	19,038.17	11,388.96	3,558.00	33,985.13
2019-20	16,401.05	11,235.26	8,100.00	35,736.31
2020-21	11,560.40	31,068.28	12,145.00	54,773.68
2021-22	17,820.09	30,017.12	9,049.00	56,886.21
2022-23	18,260.68	27,377.86	737.88	46,376.42
2023-24	21,285.56	11,660.19	-	32,945.75
2024-25	23,882.40	35,415.20	-	59,297.60

Source: Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports

- Kerala's tax share steadily declining

In India's federal fiscal architecture, tax devolution refers to the process through which a portion of the net proceeds of union taxes is distributed among the states. This devolution is determined every five years by the Finance Commission, a constitutional body entrusted with recommending the vertical and horizontal sharing of central taxes. The vertical share defines the percentage of the divisible pool allotted to all states collectively, while the horizontal distribution decides how that share is allocated across individual states based on a set of criteria. Over the past decades, the vertical devolution to states has increased progressively. The 14th Finance Commission (2015–2020) made a landmark recommendation, increasing states' share in the divisible pool of central taxes from 32% to 42%, empowering them with greater fiscal autonomy. However, while this appeared favourable in principle, Kerala's actual share in the pool declined in relative terms when compared with many other states. The 15th Finance Commission (2021–2026) reduced the states' overall share to 41% due to the creation of the new Union Territory of Jammu & Kashmir, but retained the spirit of cooperative federalism. Yet, Kerala's horizontal share further declined, from 3.9% under the 11th FC to 2.5% under the 15th FC, despite its needs and challenges to development. This trend reveals a troubling structural shift.

The 15th Finance Commission gave more weightage to population (based on 2011 census) and area, while reducing the importance of fiscal discipline, demographic performance, and income distance, factors that historically favoured Kerala due to its smaller population growth and higher social indicators. Ironically, Kerala's success in population stabilisation and human development has now become a barrier, as states with larger and more rapidly growing populations receive higher shares. The data on transfers from the central government to Kerala shows how important these flows are in supporting the state's finances and how they have fluctuated over time. Tax devolution, which represents Kerala's share of central taxes as recommended by the Finance Commission, has grown steadily in most years, moving from about ₹13,000 crore in 2015–16 to nearly ₹24,000 crore in 2024–25. However, this growth has not been smooth, with a decline in 2019–20 and especially in 2020–21, when central tax collections slowed due to the wider economic downturn.

- Kerala's tax share hurt by allocation formula

Grants-in-aid from the Centre have shown much sharper changes. While they were in the range of ₹9,000–11,000 crore in the early years, they jumped dramatically to more than ₹31,000 crore in 2020–21 and remained high in 2021–22. This increase reflects extraordinary support during the pandemic to help states meet emergency health and welfare spending. By 2023–24, however, grants fell sharply to around ₹11,600 crore before rising again to over ₹35,000 crore in 2024–25, showing how these flows can vary depending on central policies and special circumstances.

- Centre's grants fluctuate sharply with crises

An important addition from 2017–18 onwards was the Goods and Services Tax (GST) compensation, designed to make up for revenue losses that states faced when GST was introduced. Kerala received sizeable amounts under this head, particularly between 2019–20 and 2021–22, when compensation reached as high as ₹12,145 crore. This support helped the state cope with the revenue shortfall caused by the transition to GST. However, after 2022–23, these transfers largely stopped as the compensation scheme came to an end, leaving a noticeable gap in the state's receipts. When all these elements are combined, total transfers rose from about ₹23,000 crore in 2015–16 to nearly ₹60,000 crore in 2024–25. The sharp spikes in 2020–21 and 2021–22 show the Centre's role in cushioning Kerala during a time of crisis, while the later decline in GST compensation highlights the risks of depending too heavily on temporary sources. This table illustrates how central transfers are not only a regular support mechanism but also a stabilising factor during shocks, and at the same time how their volatility

- Central transfers vital but volatile support can create uncertainty for state-level fiscal planning.

- Rigid grants limit Kerala's fiscal flexibility

The 15th Finance Commission also introduced performance-linked grants in areas like sanitation, health, and power sector reforms. While Kerala has been a strong performer in social development indicators, it has struggled to qualify for some of these performance grants due to rigid eligibility norms, limited infrastructure capacity, and lagged reporting systems. In contrast, tied grants to urban and rural local bodies under the 15th FC, especially for water supply and solid waste management, have supported Kerala's LSGIs (Local Self Government Institutions) to implement decentralised developmental programmes, reinforcing its decentralisation model. The nature of grants and transfers from the Centre to Kerala reveals the asymmetric power structure in India's fiscal federalism. While Kerala has historically benefited from revenue deficit grants and CSS funds, the emerging trend points to a reduction in untied, predictable, and flexible central assistance. This has implications not just for fiscal sustainability but also for the state's ability to plan and execute long-term development strategies.

3.2.1.1 GST Compensation

- GST reduced state's tax autonomy

The introduction of the Goods and Services Tax (GST) in July 2017 marked a transformational shift in India's indirect taxation system. It subsumed a range of state and central taxes, streamlining them into a unified tax regime. However, this move significantly changed the fiscal autonomy of Indian states, including Kerala, particularly in terms of indirect tax mobilisation. When states agreed to forego their powers to levy certain indirect taxes such as VAT, luxury tax, and entry tax, the Centre, under the GST (Compensation to States) Act, 2017, promised to compensate them for a period of five years (July 2017 to June 2022). This compensation was meant to cover the gap between the projected revenue growth of 14% per annum on the base year 2015–16 and the actual GST revenue collected by each state. The compensation was to be paid out of the GST Compensation Cess collected on luxury and sin goods such as tobacco, automobiles, and aerated drinks.

GST compensation is the support the Union government provided to states to make up for any shortfall in their GST revenues, measured against a protected path of 14 per cent annual growth on the 2015–16 base year. It began when GST was introduced in July 2017 and was funded from the

GST Compensation Cess on select goods. The law promised compensation for five years, up to June 2022, with occasional carry over and final settlements thereafter. The ₹2,897 crore in 2017–18 reflects a partial year payout from July 2017 to March 2018 as the new tax replaced multiple state levies and the guaranteed revenue path kicked in. In 2018–19 the amount rose to ₹3,558 crore as the state's actual GST collections still trailed the protected growth benchmark. The jump to ₹8,100 crore in 2019–20 shows how the revenue gap widened as economic conditions softened and the tax base was still settling. The peak of ₹12,145 crore in 2020–21 coincided with the pandemic year, when activity fell sharply and cess collections themselves were insufficient; the Centre bridged this largely through back-to-back arrangements so that states like Kerala could be paid on time. As the economy reopened in 2021–22, compensation eased to ₹9,049 crore, reflecting partial recovery in own GST revenues along with continued support to honour the guarantee. The ₹737.88 crore in 2022–23 is best read as residual settlement after the statutory compensation period ended in June 2022. In 2023–24 and 2024–25 regular compensation has ceased; from this point, Kerala's GST revenue needs to stand on its own without the protection of the compensation window, which has implications for fiscal planning and the broader discussion on revenue.

- GST compensation cushioned Kerala's revenue gap

This shift has multiple implications:

1. Without compensation, Kerala has to bridge the gap through better compliance, widening of tax base, or fiscal discipline, all of which are constrained by structural challenges like high committed expenditure.

2. The absence of assured central support has led to increased market borrowings and dependence on agencies like KIIFB, thus adding to pressures in debt servicing.

- End of GST compensation strains Kerala's finances

3. States like Kerala, which already contribute significantly to national GDP and tax revenues but receive relatively low central devolutions, feel more fiscally strained. The ending of compensation further exacerbates this vertical fiscal imbalance.

4. While the Centre has announced plans to continue the cess collection beyond 2022 for repaying borrowings made under the compensation mechanism, states do not benefit from this extension, leading to growing

dissatisfaction.

5. Kerala constitutes approximately 3.8 per cent of India's nominal GDP, highlighting that it is a substantial economic contributor, yet it receives relatively limited central devolution, increasing fiscal pressures on the State.

- Post-GST era tests Kerala's fiscal autonomy

Kerala's experience with GST compensation highlights the fragility of cooperative federalism in India's fiscal structure. The state's heavy dependence on compensation due to its consumption heavy economy, coupled with the centralised structure of GST administration, has left it with reduced fiscal manoeuvrability. In the long run, Kerala's success in managing the post compensation era will depend on its ability to diversify its revenue streams and press for a more equitable federal fiscal architecture.

3.1.2 Kerala's Fiscal Dependence and Vulnerabilities

- High social gains, deep fiscal strain

Kerala's fiscal position presents a paradox, a state that consistently ranks high on social development indicators is struggling with growing fiscal distress. This is rooted not in a lack of economic dynamism, but in the complex interplay of burdens of structural expenditure, declining central support, and constrained revenue generating capacity. A major driver of Kerala's fiscal stress is the structural and persistent revenue deficit, indicating that the state regularly spends more on its day-to-day functioning than it earns through its revenue receipts. This is primarily due to high committed expenditures, particularly salaries, pensions, and interest payments. According to the Kerala Economic Review and the CAG's State Finance Reports; Committed expenditure consumed over 65–70% of total revenue expenditure in the last decade. Pension liabilities alone accounted for more than 20% of total revenue expenditure in several years. The interest payments to revenue receipts ratio is between 17% and 20%, well above the level of 10–12%. Such inflexible expenditure patterns leave very little room for developmental spending or fiscal manoeuvring, forcing the state to rely on borrowing even for operational needs.

Kerala's fiscal dependence has worsened with the progressive decline in the share of central tax devolution and grants. Under the 14^{th} Finance Commission, Kerala's share was 2.5%, but this declined to 1.925% under the 15^{th} Finance

- Social sector success penalised in transfers

Commission. This has translated to thousands of crores in foregone transfers, forcing the state to either reduce expenditure or resort to borrowings. Moreover, the criteria used by the Finance Commissions, such as 2011 population weightage and fiscal discipline parameters, disproportionately disadvantage Kerala, which has stabilised its population and maintained social sector spending over the years. The irony is that Kerala is penalised for succeeding in areas like healthcare and education, which reduced its relative demographic weight.

- End of GST compensation worsens revenue gap

The end of the GST compensation period in June 2022 has had a severe impact on Kerala's finances. As a state that gave up a buoyant indirect tax regime for the GST, the new system's revenues have not grown as fast as anticipated. Between the fiscal years 2018-19 and 2021-22, Kerala received substantial GST compensation, which was a critical component of its revenue. The annual compensation received was significantly higher than initial estimates, reaching ₹8,100 crore in 2019-20, ₹12,145 crore in 2020-21, and ₹9,049 crore in 2021-22. The cessation of this compensation from July 2022 created a significant gap in the state's revenue receipts, making the transition to a fully GST-based indirect tax structure fiscally disruptive. Moreover, the economic reviews highlight that delays in the payment of this compensation, particularly during the COVID-19 period, further complicated the state's liquidity management. Despite Kerala's pressing need to borrow for both capital and revenue purposes, it faces stringent borrowing limits under the FRBM Act, which are set and controlled by the Union Government, adding to its financial challenges.

- Borrowing curbs cause hidden liabilities

In recent years, the fiscal relationship between the Centre and the State of Kerala has been marked by increasing friction over borrowing limits. A significant point of contention has been the Centre's decision, starting from the fiscal year 2022-23, to treat the off-budget borrowings raised by state entities as part of Kerala's own debt. This policy change led to a direct reduction in the state's Net Borrowing Ceiling (NBC). These constraints, aimed at enforcing fiscal discipline, have been criticised by the state for not considering the unique structural pressures of Kerala's economy, leading to a tightening of credit that has impacted development projects and welfare schemes. In response to this constrained fiscal space, Kerala had previously relied heavily on off-budget borrowing mechanisms. The most prominent of these has been the KIIFB, which was restructured to fund large-scale infrastructure projects by raising funds from the market.

For instance, in a single year (2019-20), KIIFB mobilised ₹12,398.71 crore. Another key entity, the KSSPL, also raised substantial funds, borrowing ₹12,028.00 crore in 2020-21 to ensure the timely disbursal of social security pensions. While these instruments enabled significant capital expenditure without immediately reflecting in the budgeted fiscal deficit, they effectively created "hidden" liabilities for the state. This practice has been repeatedly flagged by the CAG. The CAG has warned that these off-budget borrowings are, in substance, the liabilities of the state and that bypassing the constitutional provisions on borrowing understates Kerala's actual debt and deficit levels. The Economic Reviews note the CAG's concern that this approach could pose long-term solvency risks if not transparently accounted for within the state's budget.

- Kerala's Fiscal health challenges

Kerala's fiscal health is shaped by its unique, historically embedded socio-economic model that has long prioritised human development. However, this model faces significant challenges due to structural constraints in its revenue generation capabilities, high committed expenditure, and evolving intergovernmental fiscal arrangements. A primary challenge lies in the state's own revenue efforts, particularly in tax mobilisation. The state's economy is dominated by a services sector, which is inherently harder to tax compared to a manufacturing-based economy. This is compounded by a narrow industrial base, which limits the scope for traditional tax revenue sources. Successive state budgets show a heavy dependence on a few key areas for tax revenue; for instance, a progressive taxation policy already levies high taxes on items like alcohol, fuel, and motor vehicles, leaving little room for further rate increases without adverse effects. Furthermore, the state faces challenges with widespread exemptions and compliance in revenue sources like land and property tax. As a result of these structural issues, Kerala's Own Tax Revenue as a percentage of its GSDP has shown signs of stagnation. While the user's initial estimate was between 6.5% and 7.5%, the actual data from the budget documents indicates that this ratio has fluctuated, generally hovering in a range from 7.9% to over 9%, but has struggled to achieve the robust growth needed to match rising demands on expenditure. These fiscal vulnerabilities are not solely a result of internal policies, but are significantly exacerbated by external constraints. A major factor has been the reduction in central support.

The Kerala Economic Reviews suggest the need for internal reforms, such as broadening the tax base by bringing more services under the tax net, improving efficiency in public sector undertakings, and rationalising non-essential expenditure. Alongside these measures, there is a need for external support in the form of more equitable criteria in the devolutions of the central finance commission and a more flexible approach from the Centre regarding state borrowing limits, possibly tied to performance indicators. Without such a comprehensive recalibration, Kerala risks a deeper fiscal imbalance, which could jeopardise its hard-won development gains and its ability to sustain its welfare oriented governance model.

- Reforms and flexible support key for sustainability

India's federal fiscal system is designed to promote equity, efficiency, and fiscal discipline across states with varying levels of development, resource bases, and expenditure responsibilities. However, the experience of states like Kerala reveals growing asymmetries and stress points in this system, particularly in the post-GST and post-COVID fiscal landscape. Kerala's case illustrates a paradox that lies at the heart of India's fiscal federalism: states that perform better on human development indicators, social sector investments, and fiscal caution are increasingly being disadvantaged under the existing formulae for tax devolution and grant allocation.

- The paradox of Fiscal federalism hurts performers

3.2.2 Finance Commission

The Finance Commission of India is a constitutionally mandated body created under Article 280 of the Constitution. It was established in 1951 with the aim of ensuring a fair and just distribution of financial resources between the Union and the States. The founding vision was rooted in the understanding that a federal structure like India requires continuous recalibration of fiscal flows to maintain both equity and efficiency in the delivery of public service. Historically, the Finance Commission filled the fiscal vacuum that existed after independence, especially in the context of uneven regional development, differing capacities for tax mobilisation, and varying degrees of expenditure needs. Since its inception, the Commission has been reconstituted every five years, and each iteration has responded to changing political, economic, and social realities. In the earlier decades, it mainly dealt with tax devolution and basic grants-in-aid. Over time, its role expanded significantly to include performance incentives, disaster relief funds, fiscal discipline mandates, and more nuanced forms of intergovernmental transfers. The Constitution of India empowers the President to constitute a Finance Commission

- Finance Commission ensures equitable resource sharing every five years or earlier if deemed necessary.

The core objectives of the Commission include:

- Recommending the distribution of the net proceeds of taxes between the Centre and the States (vertical devolution).
- Determining the allocation of these proceeds among the States themselves (horizontal devolution).
- Suggesting grants-in-aid to states from the Consolidated Fund of India.
- Addressing any other matter concerning financial relations referred to it by the President.

- Finance Commission mandates tax sharing and grants

This makes the Finance Commission a key institution in maintaining the fiscal balance of India's quasi-federal system. Its recommendations, although advisory in nature, have historically been accepted by the central government, giving the institution considerable authority in practice. One of the most critical roles of the Finance Commission is correcting the vertical imbalance, where the Centre enjoys a broader tax base, but the states are responsible for the bulk of developmental and welfare expenditure. Without the Finance Commission, states would lack the resources necessary for delivering services such as health, education, infrastructure, and social welfare. The horizontal imbalance arises because not all states are equal in terms of resource endowments, administrative capacity, or economic progress. For example, a state like Kerala, despite its high human development indicators, faces fiscal stress due to high committed expenditure and limited industrialisation. The Finance Commission uses a formulaic approach, considering factors such as population, income distance, area, forest cover, and fiscal discipline to ensure equity in distribution.

- Finance Commission balances vertical and horizontal inequities

In its early years, the Finance Commission's role was limited primarily to tax devolution and grants-in-aid. However, the economic liberalisation of the 1990s and the enactment of the FRBM Act in 2003 significantly broadened its mandate. The Commission began encouraging states to reduce fiscal and revenue deficits, and started recommending grants tied to outcomes in sectors such as health, education, and environmental sustainability. From the 13th Finance Commission onwards, a portion of the central share has also been allocated to the State Disaster Response Fund (SDRF). Since the 11th Commission, it has advocated for direct transfers

- Finance Commission evolved into fiscal reform driver to Panchayats and Urban Local Bodies, thereby improving fiscal decentralisation. For a state like Kerala, characterised by high social development indicators but constrained own-revenue generation, the Finance Commission plays a crucial role not just in revenue sharing, but as a fiscal lifeline. Kerala's fiscal profile is defined by high levels of committed expenditure on salaries, pensions, and interest payments; a limited industrial base with a declining share of income from the primary sector; and a strong commitment to public welfare and social services. However, the formulas used by successive Finance Commissions have not always worked in Kerala's favour. For instance, states with higher population growth or lower development indicators often receive a larger share of funds to help them catch up, leaving advanced states like Kerala at a relative disadvantage despite their higher per capita needs.

- Finance Commission anchors equitable federalism

The Finance Commission has evolved into a strategic institution of cooperative federalism, ensuring that no state is left behind in the pursuit of national development. Its decisions impact social justice, regional equity, and macroeconomic stability. For Kerala, the Commission's role is especially important given the state's structural fiscal stress and high social spending obligations. Going forward, reforming the devolution formula to reward demographic and social achievements, ensuring greater fiscal predictability, and creating mechanisms for mid-term corrections will be important. In a complex and dynamic federal setup like India's, the Finance Commission remains a critical balancing force, and its effectiveness in the coming decades will depend on its institutional independence, technical rigour, and responsiveness to ground realities. The Finance Commission is not merely a revenue-sharing body. It is a fiscal institution of balance, aiming to ensure that all states, regardless of their historical, geographic, or economic conditions, can fulfil their constitutional responsibilities to the people. Its multifaceted functions support both vertical and horizontal equity, improve governance outcomes, and strengthen the Union's integrity through fair fiscal federalism.

3.2.2.1 The Functions of the Finance Commission

The Finance Commission of India is a constitutional body established under Article 280 of the Indian Constitution. Its core responsibility is to recommend how financial resources should be distributed between the Centre and the States, and among the states themselves. This institution has been instrumental in shaping the Indian fiscal federal structure by providing regular, non-political, expert advice on financial distribution and fiscal management. The Finance Commission is reconstituted every five years and is chaired by a distinguished economist or public finance expert, with other members drawn from public administration, law, and economics. The functions of FC include :

- Vertical devolution bridges Centre–State fiscal gap

- **Vertical Devolution:** One of the primary functions of the Finance Commission is to recommend the distribution of the net proceeds of taxes between the Union and the States. This is referred to as vertical devolution. In India's federal setup, while the Centre enjoys a larger share of tax revenue, the expenditure responsibilities largely lie with the states. This mismatch, where the Centre has more resources and the States have more responsibilities, creates what is known as a vertical fiscal imbalance. To bridge this gap, the Finance Commission determines what proportion of centrally collected taxes should be allocated to the states. Over time, this proportion has evolved with changing fiscal needs and political realities. For instance, the Fourteenth Finance Commission recommended a 42% share to the states, while the Fifteenth Finance Commission revised it to 41%, excluding the share of the erstwhile state of Jammu & Kashmir. For a state like Kerala, which has limited revenue raising capacity but significant social sector commitments, vertical transfers are vital to maintain fiscal health and development expenditure.

- Horizontal devolution ensures fair inter-state allocation

- **Horizontal Devolution**: After determining the states' aggregate share from the divisible pool, the Finance Commission also recommends the distribution of this amount among the individual states, a process known as horizontal devolution. This process seeks to reduce inter-state disparities and ensure that every state, regardless of its natural endowments or historical disadvantages, has adequate financial capacity to provide a basic standard of public services to its citizens. To ensure fairness, the Commission uses a formula that incorporates a mix of demographic, economic, and geographical criteria. For instance, population (1971 and 2011), income distance, area, forest cover, and demographic performance are often used. Kerala has historically been impacted by this formula, particularly due to its lower population growth and demographic transition, which sometimes result in reduced allocations compared to states with high-population-growth However, criteria like income distance and forest cover often favour Kerala in relative terms. Through such a multi-criteria formula, the Commission aims to promote fiscal equalisation, a key principle in federal finance.

- Grants-in-aid support deficit and reforms

- **Grants-in-Aid to States:** Another core function of the Finance Commission is recommending grants-in-aid under Article 275 of the Constitution. These grants are provided to states that still face revenue deficits even after tax devolution. In essence, this function is intended to ensure that states are not left fiscally vulnerable due to structural challenges or unforeseen circumstances. States like Kerala, which struggle with high committed expenditure on salaries, pensions, and interest payments, have regularly received post devolution revenue deficit grants. Besides general revenue deficit grants, the Commission also recommends sector specific and performance-based grants. These include grants for education, health, judiciary, agricultural infrastructure, and disaster handling. Additionally, performance linked grants incentivise reforms in fiscal management, power sector restructuring, or ease of doing business. For Kerala, such grants have supported innovations in public health and local governance, although tighter fiscal targets have sometimes constrained the state's flexibility.

- Finance Commission grants bolster Kerala's local governance

- **Strengthening Local Governance:** Since the 73rd and 74th Constitutional Amendments, local bodies have become the constitutionally mandated institutions for grassroots governance. Recognising their importance, the Finance Commission recommends measures to augment the Consolidated Fund of States to supplement the resources of Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs). These recommendations aim to strengthen decentralisation and ensure predictability in the finances of local governments. The Commission usually divides these grants into basic and performance based components, encouraging local bodies to improve planning, budgeting, financial reporting, and service delivery. Kerala, with its globally recognised model of participatory planning and strong PRI network, has been a key beneficiary of such grants. The state's strong decentralised governance framework is often cited as a model for other Indian states, and timely recommendations from the Finance Commission help in sustaining it.

- **Special Assignments and Contemporary Fiscal Issues:** The President of India may also entrust the Finance

Commission with additional responsibilities, depending on the fiscal challenges of the time. These could include examining state debt sustainability, suggesting ways to manage disaster related expenditures, or reviewing compensation mechanisms under the GST. For instance, in recent years, the Commission has been tasked with reviewing the impact of GST on states' finances, mechanisms to support disaster risk reduction, and funding approaches for public infrastructure. Such assignments ensure that the Finance Commission remains relevant in a dynamic fiscal and macroeconomic environment, allowing it to adapt its approach to address contemporary federal challenges. This flexibility has increased the role of the Commission from a constitutional allocator of funds to a strategic fiscal advisor.

- Special tasks make Finance Commission a strategic fiscal advisor

The Finance Commission plays a key role in maintaining the fiscal equilibrium of India's federal system. It ensures that states have adequate resources to fulfil their constitutional responsibilities, while also encouraging fiscal discipline, accountability, and performance-based resource utilisation. Through tax devolution, revenue gap grants, and local body funding, it promotes equity across regions and promotes cooperative federalism. In the case of Kerala, the Finance Commission has had significant implications. While the state benefits from certain equitable transfers, it also faces challenges due to its unique demographic and fiscal structure. As Kerala continues to grapple with fiscal stress, high debt, and developmental needs, the Finance Commission remains an important institutional mechanism for sustaining inclusive and balanced development.

- Finance Commission sustains balanced state development

3.2.2.2 The Fifteenth Finance Commission

The Fifteenth Finance Commission (FC-XV) was constituted in November 2017 under the chairmanship of N.K. Singh, a seasoned economist and policy maker. Its mandate, as per Article 280 of the Indian Constitution, was to recommend the distribution of tax revenues between the Union and the States, and among the States, for the period 2020–21 to 2025–26. What sets this Commission apart from its predecessors is the complex fiscal backdrop in which it operated, marked by the implementation of Goods and Services Tax (GST), rising fiscal stress among states, increasing off-budget borrowings, and the severe economic shock of the COVID-19 pandemic. The FC-XV was therefore tasked not only with addressing the traditional fiscal devolution agenda but also managing uncertainty and volatility in both revenue generation and

- 15^{th} FC faced unprecedented fiscal challenges expenditure responsibilities across levels of government.

Key recommendations the Fifteenth Finance Commission are as follows:

- 15th FC ensured stable tax devolution

1. **Devolution of Union Taxes to States (Vertical Devolution):** One of the core recommendations of the Fifteenth Finance Commission was the vertical devolution of tax revenues, that is, the share of the Union government's net tax revenues that would be distributed among the states. The FC-XV recommended that 41% of the net proceeds of central taxes be devolved to the states for the period 2021–22 to 2025–26. This was a reduction from the 42% recommended by the Fourteenth Finance Commission, primarily due to the reorganisation of Jammu & Kashmir into Union Territories, which are now directly administered by the Centre and hence not eligible for a share in the divisible pool. Despite the marginal decrease, the absolute quantum of transfers was expected to rise owing to economic growth and increased tax collection. However, the COVID-19 pandemic disrupted this projection. Still, this stable 41% share helped maintain predictability and continuity in intergovernmental transfers, offering states some degree of fiscal certainty during uncertain times.

- New formula penalises Kerala's demographic gains

2. **Distribution Among States (Horizontal Devolution Formula):** FC-XV introduced a revised horizontal devolution formula to distribute the 41% share of the divisible pool among the 28 states, using a set of weighted criteria. These included Income Distance (45%), which measures the gap between a state's per capita income and that of the richest state to favour poorer states; Population based on the 2011 Census (15%), marking a shift from the 1971 base used by earlier commissions; Area (15%), which benefits geographically larger states; Forest and Ecology (10%), to reward states for environmental preservation; Demographic Performance (12.5%), which recognises efforts in population control; and Tax Effort (2.5%), which incentivises higher own tax revenue relative to Gross State Domestic Product (GSDP). For Kerala, the transition to the 2011 population base was disadvantageous, as its early demographic transition and stabilised population growth led to a reduced share in the tax pool. Although the demographic performance

factor provided some compensation, Kerala's horizontal share declined marginally, underscoring the tension between achieving population control and receiving fiscal allocations.

- Revenue deficit grants vital for Kerala

3. **Revenue Deficit Grants:** A key recommendation was the provision of revenue deficit grants to states unable to meet their revenue expenditure from revenue receipts even after devolution. These grants help bridge the fiscal gap and ensure that states can meet essential expenditures without falling into a debt trap. The FC-XV recommended revenue deficit grants of ₹2.95 lakh crore to 17 states for the award period. Kerala was one of the major beneficiaries, with allocations amounting to approximately ₹19,891 crore over five years. This support was important for maintaining public services, paying salaries and pensions, and meeting interest obligations, particularly in a state with limited revenue-raising potential and high committed expenditures.

- Tied grants reward sectoral performance and reform

4. **Performance-Based and Sector-Specific Grants:** The FC-XV introduced tied and performance based grants to motivate states to enhance public service delivery across key sectors. These grants included ₹70,051 crore for health sector infrastructure and outcomes, incentives for agricultural reforms to promote the adoption of modern practices, urban local body grants linked to air quality improvement, and judicial sector grants aimed at strengthening court infrastructure and case management. To access these funds, states were required to meet specified minimum conditions and performance benchmarks. Kerala, with its strong track record in public health and local governance, was well-positioned to absorb and utilise these grants effectively. However, in sectors such as agriculture and the judiciary, structural reforms were necessary for the state to fully capitalise on the available allocations.

- Kerala excels in leveraging local body grants

5. **Local Body Grants:** A major focus of the Fifteenth Finance Commission (FC-XV) was the empowerment of local governments, for which it allocated ₹4.36 lakh crore to rural and urban local bodies over a five-year period. These grants were structured into three categories viz basic grants for general-purpose expenditures, tied grants earmarked for specific services such as sanitation, water supply, and waste management, and performance-based grants linked to criteria like financial reporting,

transparency, and service delivery outcomes. Kerala, with its internationally recognised People's Plan Campaign and strong decentralised planning model, emerged as a frontrunner in effectively utilising these grants. The state's consistent adherence to financial norms and timely submission of audit reports ensured a steady and uninterrupted flow of funds to its local bodies.

6. **Disaster Risk Management and Mitigation Grants:** Recognising the increasing frequency of climate-induced disasters, the FC-XV established a National Disaster Risk Management Fund (NDRMF) and a State Disaster Risk Management Fund (SDRMF), with central and state shares in the ratio of 75:25. These funds were meant to support both post-disaster relief and proactive mitigation measures. Kerala, having faced multiple floods (notably in 2018 and 2019) and a serious Nipah virus outbreak, was allocated ₹3,279 crore under the SDRMF for the award period. The funds aimed to build infrastructure, early warning systems, and community preparedness, thereby mainstreaming disaster reduction into development planning.

- Disaster grants strengthen Kerala's resilience

7. **Fiscal Sustainability and Borrowing Framework:** The FC-XV, recognising the increasing fiscal stress and rising debt burdens across Indian states, proposed a fiscal roadmap for both the Centre and the States. It recommended that states limit their fiscal deficit to 4% of GSDP in 2021–22, with a gradual reduction to 3% by 2025–26. Additionally, it advised states to keep their outstanding debt below 30% of GSDP by the end of the award period. To encourage reforms, the Commission introduced an incentivised borrowing space of up to 0.5% of GSDP for states implementing power sector reforms and improving financial transparency. For Kerala, the Commission called for full disclosure of such liabilities and a commitment to fiscal consolidation. The core challenge for Kerala was to integrate its welfare-oriented commitments on expenditure with the need for sustainable and transparent revenue strategies.

- Kerala urged to align welfare with fiscal caution

8. **Off-Budget Borrowings and Transparency:** In line with concerns raised by the Comptroller and Auditor General (CAG), the FC-XV strongly recommended that off-budget borrowings be reported transparently and integrated into the calculation of debt and fiscal deficit.

- FC-XV pushes Kerala for transparent debt reporting

This includes borrowings by special purpose vehicles (SPVs) like KIIFB and those guaranteed by the state but not included in the budget. Such measures were proposed to ensure that the true fiscal picture of a state is not hidden behind accounting practices. For Kerala, this meant revisiting its capital financing strategies and ensuring that all liabilities, direct or indirect, are part of the fiscal framework for accountability and macroeconomic stability.

- FC-XV offers Kerala reform-linked opportunity and challenge

For Kerala, the FC-XV's recommendations were a mixed bag. On the one hand, the revenue deficit grants and local body grants were a financial lifeline, especially during the pandemic. On the other hand, the shift to the 2011 population base and the pressure to reduce deficits posed medium-term fiscal constraints. Kerala also faces unique challenges such as a rapidly ageing population, high public sector employment, and welfare-centric governance, all of which add to the revenue expenditure burden without commensurate revenue gains. The FC-XV's push for performance-linked borrowing incentives, improving fiscal transparency, and decentralised public finance management align well with Kerala's strengths of governance, but also call for bold fiscal restructuring. The state will need to strike a balance between its developmental commitments and fiscal caution, while also leveraging the institutional mechanisms strengthened by the Commission's recommendations. For Kerala, this means both opportunity and responsibility i.e., the opportunity to leverage financial devolution for inclusive growth, and the responsibility to reform fiscal practices, increase own-revenue generation, and integrate off-budget borrowings transparently into the fiscal architecture.

3.2.3 Fiscal Federalism

- Fiscal federalism balances taxing and spending powers

Fiscal federalism refers to the division of financial powers and responsibilities between different levels of government in a federal polity. At its core, it addresses three fundamental questions viz Who should tax? Who should spend? And who should borrow? The objective is to ensure an efficient, equitable, and accountable allocation of resources between the Union and subnational governments (states and local bodies). In theory, fiscal federalism aims to balance national priorities with local needs, leveraging the closeness of state and local governments to the public. However, this also requires a well-designed framework of resource sharing, expenditure assignment, intergovernmental transfers, and borrowing limits. The Indian Constitution, while quasi-federal, cherish a fiscal framework that is both centralised in revenue collection and decentralised in spending responsibility, leading to fiscal imbalances.

- Vertical and horizontal imbalances shape transfers

The primary vertical imbalance arises because the Union Government controls major tax bases (e.g., income tax, GST, excise duties), while the States are responsible for core service delivery like health, education, and law and order. This leads to a mismatch between revenue raising powers and expenditure obligations. To correct this, mechanisms such as Finance Commission devolution, grants-in-aid, and shared taxes are instituted. Horizontal imbalances refer to differences among states in terms of capacity for revenue generation and development needs. Thus, horizontal equity demands that transfers consider not just population size but also factors like poverty, fiscal capacity, and demographic efforts.

- Devolution rises, but centralisation persists

India's fiscal federalism has evolved significantly over the decades. The First Finance Commission (1951) set the model for revenue sharing. The Fourteenth Finance Commission (2015–20) expanded devolution to 42% of the divisible pool, signalling a shift towards cooperative federalism. The Fifteenth Finance Commission continued this approach but reduced the share slightly to 41% to accommodate the reorganisation of Jammu & Kashmir. However, the actual practice has revealed growing centralisation. The Centre has increased its dependence on cesses and surcharges, which are not shareable with states, reducing the effective devolution. Moreover, centrally sponsored schemes (CSS) continue to dominate sectors like rural employment and education, often curtailing the fiscal autonomy of states.

India uses multiple institutional mechanisms to implement fiscal federalism:

1. **Finance Commissions**: Constitutional bodies recommending tax devolution, grants, and fiscal rules.
2. **Goods and Services Tax (GST) Council**: A unique federal institution where both Union and States decide indirect tax rates and structure.
3. **Planning Commission/NITI Aayog**: Formerly a centralised planning agency, now functioning more as a think tank under the new federal compact.

4. **Inter-State Council and Zonal Councils**: Forums for cooperative engagement, though underutilised in fiscal matters.

- Federal institutions exist, but autonomy concerns persist

Despite these institutions, fiscal relations often become adversarial, especially during times of economic stress. States argue that central overreach, delays in fund disbursement, and restrictive conditions on grants hinder genuine autonomy.

- Kerala's fiscal needs unmet despite performance

Kerala represents a unique case in India's federal fiscal system. The state has limited fiscal space due to a narrow tax base, high welfare spending, and low industrial diversification. Its dependence on Finance Commission transfers and central grants is significant, but these are often insufficient to meet its developmental and social sector commitments. While Kerala has benefited from performance-linked grants and disaster mitigation support (especially post-2018 floods), its share in divisible pool taxes has gradually declined due to demographic stabilisation. For instance, the shift to the 2011 Census in tax devolution penalised states like Kerala, which performed well in population control.

- Rivalry and partnership in federalism

India's economic reforms post-1991 introduced the idea of competitive federalism, where states compete to attract investment and perform better on fiscal indicators. However, this works best when there is adequate fiscal space and equal opportunity. In contrast, cooperative federalism emphasises partnership, especially relevant in disaster response, health (like during COVID-19), and education. Kerala has often led in cooperative governance models, showing flexibility in decentralised planning and health sector outcomes. However, competition for central funds and rising political friction can undermine the cooperative spirit.

3.2.4 Goods and Services Tax (GST)

- GST unifies tax system under dual federal model

The GST is a landmark reform in India's indirect tax regime, introduced to unify and streamline the taxation system across the country. Implemented from 1st July 2017, GST subsumed a multitude of central and state taxes like excise duty, VAT, service tax, entry tax, and others, creating a single, nation-wide market. It aims to eliminate cascading taxation, increase tax compliance, and promote cooperative federalism by aligning the interests of the Centre and the States. The GST in India operates under a dual model, wherein both the Central and State Governments have the authority to levy and collect taxes. Under this system, Central GST (CGST) is collected by the Central Government on intra-state sales, while State GST (SGST) is collected by the respective State Governments on the same transaction. For inter-state sales and imports, Integrated GST (IGST) is levied and collected by the Centre, which is subsequently shared with the States. This structure ensures a balanced distribution of taxation powers between the two tiers of government, thereby upholding the principles of fiscal federalism.

- GST Council ensures cooperative fiscal decision-making

The GST Council, established under Article 279A of the Constitution, is a distinctive federal institution that embodies cooperative federalism. It comprises the Union Finance Minister as Chairperson and the finance ministers of all States, and is responsible for deciding GST rates, exemptions, rules, and administrative procedures. Decisions within the Council require a three-fourths majority, with the Centre holding one-third of the total votes and the States collectively holding the remaining two-thirds, thereby ensuring a balanced and collaborative decision-making process. GST revenue allocation follows a well-defined mechanism: for intra-state transactions, CGST and SGST)are levied and retained by the Centre and the respective State, while for inter-state transactions, Integrated GST (IGST) is collected by the Centre and apportioned between the Centre and States according to the destination principle, meaning revenue accrues to the State where the final consumption takes place. The Finance Commission and the GST Council together play a key role in shaping both vertical (Centre versus States) and horizontal (among States) revenue-sharing arrangements.

- GST compensation shortfalls strain federal trust

With the introduction of GST, which subsumed several state-level taxes, many States, especially those with manufacturing driven economies or dependence on entry taxes, anticipated revenue losses. To address this, the Union Government implemented a compensation mechanism under the GST (Compensation to States) Act, 2017. This mechanism guaranteed States a 14% annual growth in GST revenue for a five-year period (2017–2022), based on the 2015–16 revenue baseline. The compensation was financed through a GST Compensation Cess levied on luxury and sin goods such as tobacco, coal, and automobiles. Kerala, like many other States, relied heavily on this compensation due to the decline in revenue from pre-GST sources such as VAT. However, from 2020 onwards, the mechanism began experiencing shortfalls, prompting debates on fiscal autonomy, the credibility of federal agreements, and the implications of proposed borrowing arrangements to bridge the compensation gap.

- Post-GST reforms must restore cooperative federal balance

The introduction of GST marked a landmark moment in India's fiscal architecture, aiming to unify the complex web of indirect taxes into a streamlined, consumption based system. While it has undoubtedly improved tax compliance, simplified administration, and promoted a national market, the transition has not been without challenges, particularly for states like Kerala with unique economic structures and expenditure patterns. The phasing out of the compensation system, revenue shortfalls, and limited fiscal space have rekindled debates on the balance of fiscal powers between the Centre and States. Going forward, sustaining the spirit of cooperative federalism, improving GST buoyancy, and addressing state-specific concerns must remain central to policy reforms. Only then can GST truly serve as an instrument of equitable growth and fiscal stability across the Indian Union.

3.2.4.1 GST and Allocation of Taxes Between Centre and States

- GST improves efficiency but reduces Kerala's tax autonomy

The introduction of the GST in India on 1 July 2017 was a landmark reform aimed at creating a unified market by subsuming a multitude of indirect taxes levied by both the Centre and the States. This new tax structure replaced the earlier system of multiple cascading taxes, enabling a seamless flow of input tax credit across state borders. Under the GST framework, taxes are levied concurrently by the CGST and the SGST, while inter-state supplies attract IGST, which is collected by the Centre and later apportioned between states based on consumption. For a consumption heavy state like Kerala, one that relies significantly on service industries and has relatively lower industrial output, the shift to GST presented a mixed bag. On the one hand, it promised greater tax efficiency, broader compliance, and reduced tax evasion. On the other, Kerala faced potential shortfalls in tax revenue, especially with the loss of autonomy to levy certain state-specific taxes such as the octroi, entertainment tax, and purchase tax on essential commodities.

The data on Kerala's GST revenues and overall tax receipts shows how the introduction of the Goods and Services Tax has gradually reshaped the structure of the state's finances. From 2017–18 onwards, SGST collections became a major component of Kerala's own revenues. In the first year, SGST

Table 3.2.2 GST and Allocation of Taxes (in crore)

Fiscal Year	SGST	IGST Settlement	Total GST Revenue	State's Own Tax Revenue (SOTR)	Share of Central Taxes	Total Tax Revenue
2017-18	12,858.94	6,366.11	19,225.05	51,876.35	16,833.08	68,709.43
2018-19	17,808.00	3,558.00	21,366.00	62,427.34	19,038.17	81,465.51
2019-20	18,345.00	1,971.00	20,316.00	62,588.36	16,401.05	78,989.41
2020-21	18,255.00	2,000.00	20,255.00	54,988.15	11,560.40	66,548.55
2021-22	24,010.00	6,500.00	30,510.00	68,803.03	17,820.09	86,623.12
2022-23	31,960.00	8,500.00	40,460.00	87,086.11	18,260.68	1,05,346.79
2023-24	35,640.00	9,500.00	45,140.00	93,891.31	21,285.56	1,15,176.87
2024-25	40,000.00	10,500.00	50,500.00	1,03,239.96	23,882.40	1,27,122.36

Source: *Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports*

- GST now the central pillar of Kerala's revenue

brought in about ₹12,859 crore, with an additional ₹6,366 crore received through the settlement of IGST, together adding up to a total GST revenue of ₹19,225 crore. Since then, both SGST and IGST settlements have steadily grown, with SGST alone crossing ₹40,000 crore by 2024–25, reflecting the increasing maturity of the system and the rise in consumption and compliance. The settlements of IGST, which represent the share of taxes collected on inter-state trade and imports, also grew significantly over time. They provided a supplementary flow to Kerala's revenue, rising from about ₹6,366 crore in 2017–18 to ₹10,500 crore by 2024–25. Together, SGST and IGST formed a GST revenue of over ₹50,500 crore in the latest year, highlighting how central the new tax regime has become to state finances.

- GST anchors Kerala's expanding tax base

When this GST revenue is viewed in relation to the state's own tax revenue (SOTR), it is clear that GST has become one of the largest contributors. The SOTR, which includes GST along with other state taxes like excise, stamps, and motor vehicle taxes, grew from about ₹51,876 crore in 2017–18 to more than ₹1,03,000 crore by 2024–25. This shows that despite challenges in earlier years, the tax system has expanded considerably. Alongside this, Kerala's share of central taxes also grew, from about ₹16,833 crore in 2017–18 to nearly ₹24,000 crore in 2024–25, further strengthening the state's tax base. When all sources are combined, total tax revenue grew from around ₹68,700 crore in 2017–18 to over ₹1,27,000 crore in 2024–25. The consistent growth in GST revenues, both from SGST and IGST, has played a decisive role in this expansion. The table shows how GST, despite initial concerns, has emerged as a vital and growing source of revenue for

Kerala, anchoring its tax system and forming the foundation of its fiscal capacity in recent years.

- GST strains Kerala's autonomy despite rising revenues

The experience of GST in Kerala shows both the potential and the limitations of India's new model of fiscal federalism. While GST has led to greater uniformity and transparency in tax administration, it has also strained the fiscal autonomy of states. The end of the compensation era has left states like Kerala at the crossroads, balancing the promise of long-term efficiency gains with the immediate challenge of revenue sustainability. Going forward, cooperative federalism must be revitalised not just in spirit but in practice, by ensuring timely settlements, revisiting revenue-sharing formulas, and allowing more space for states to innovate within the broader fiscal framework.

Summarised Overview

India's quasi-federal fiscal system gives the Union far greater revenue powers, while states like Kerala bear most of the expenditure responsibilities in health, education, welfare, and infrastructure. This creates a vertical fiscal imbalance that is corrected through Finance Commission transfers, tax devolution, grants, and centrally sponsored schemes. Kerala, despite its high human development achievements, finds itself disadvantaged because recent Finance Commission criteria have reduced its share in central transfers, penalising states with lower population growth and stronger social indicators. Between 2015 and 2025, Kerala faced shrinking devolutions, the end of GST compensation, and limits on borrowings, even as it expanded welfare schemes and responded to crises such as floods and the pandemic.

Tax devolution has grown in absolute terms, rising from ₹13,000 crore in 2015–16 to nearly ₹24,000 crore in 2024–25, but Kerala's relative share has declined steadily. Grants-in-aid, meanwhile, have fluctuated sharply, surging during the pandemic but falling sharply thereafter, before rising again in 2024–25. GST compensation, which was crucial between 2017 and 2022, cushioned Kerala's revenue gap, peaking at over ₹12,000 crore in 2020–21, but its withdrawal has left a structural hole in the state's receipts. Overall transfers rose from ₹23,000 crore in 2015–16 to nearly ₹60,000 crore in 2024–25, but the volatility of these flows makes fiscal planning uncertain.

The Finance Commission, as the constitutional arbiter of transfers, has evolved from a simple revenue-sharing body to a fiscal reform driver. It determines vertical and horizontal devolution, grants-in-aid, local body funding, and even contemporary fiscal issues such as debt sustainability and GST impacts. While Kerala has benefited from deficit grants, local body funding, and disaster management support, it has also been constrained by rigid eligibility norms and performance-linked conditions. The 15th Finance Commission reduced the overall vertical share to 41%, introduced a 2011 population base that disadvantaged Kerala, and pushed for transparency in off-budget borrowings. For Kerala, it provided vital lifelines such as revenue deficit grants and local body allocations, but also imposed tighter fiscal discipline and reduced flexibility.

GST fundamentally reshaped Kerala's tax structure, replacing multiple state taxes with SGST and IGST. From 2017–18 onwards, GST became the central pillar of Kerala's revenues, with SGST alone crossing ₹40,000 crore by 2024–25. Combined GST receipts exceeded ₹50,000 crore in that year, anchoring the state's own tax revenue, which doubled to over ₹1,03,000 crore. Alongside a growing share of central taxes, Kerala's total tax revenue rose to more than ₹1,27,000 crore. However, the expiry of GST compensation has strained Kerala's fiscal capacity, as it now has to rely solely on compliance, widening the base, and efficient administration to sustain revenues.

Kerala's fiscal stress is shaped by structural issues such as high committed expenditure on salaries, pensions, and interest, limited scope for further taxation, and growing dependence on volatile central transfers. Off-budget borrowings through agencies like KIIFB and KSSPL helped finance infrastructure and welfare but created hidden liabilities that the Centre now counts against Kerala's borrowing limits, tightening fiscal space further. The CAG has flagged these practices as risks to transparency and sustainability.

The broader lesson from Kerala's experience is that fiscal federalism in India, while designed to ensure equity and efficiency, often penalises states that have succeeded in demographic and social progress. Kerala's fiscal sustainability depends on both internal reforms, broadening the tax base, rationalising expenditure, improving PSU efficiency, and external support in the form of more equitable devolution criteria and flexible borrowing arrangements. Going forward, revitalising cooperative federalism and recalibrating Centre–State fiscal relations are essential to balance Kerala's welfare commitments with long-term financial stability.

Assignments

1. Discuss the evolution of Centre–State financial relations in India and evaluate their implications for Kerala's fiscal health.
2. Analyse the structure, role, and recent recommendations of the 15th FC.
3. What is fiscal federalism? Critically evaluate how it operates in India with a special reference to Kerala.
4. Examine the GST framework and its impact on the fiscal structure of Indian States.
5. Compare the trends in vertical and horizontal devolution before and after the 15th FC.

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 3 Fiscal Decentralisation and Local Government Finance

Learning Outcomes

After completing this unit, learners will be able to:

- understand the evolution and structure of decentralisation in Kerala
- analyse the fiscal functioning of Local Self-Government Institutions (LSGIs)
- know the performance and challenges of State Finance Commissions (SFCs)
- discuss trends in plan fund allocations and revenue mobilisation at the local level
- assess institutional and administrative issues affecting local fiscal performance

Background

Kerala's journey toward decentralisation is deeply intertwined with its broader socio-political evolution and its commitment to inclusive development. The roots of this journey lie in the state's unique blend of high literacy, progressive social movements and strong grassroots mobilisation. Since the formation of the state, Kerala has consistently sought to bring governance closer to its people, resulting in pathbreaking initiatives like the People's Plan Campaign of 1996, which marked a landmark moment in participatory development planning. This model of decentralisation was not merely administrative; it was also profoundly democratic. It aimed to empower citizens, especially those in rural and marginalised communities, by giving them a direct role in planning, budgeting and implementing local development projects. The idea was simple yet revolutionary: people know their needs best and governance should reflect that. However, decentralisation is not a destination, it is a dynamic process that needs strong fiscal backing, administrative consistency and strong institutional support. For decentralisation to be effective, local bodies must have sufficient resources, legal authority and the capacity to act. This is where the role of fiscal decentralisation becomes critical. The ability of Local Self-Government Institutions (LSGIs) to raise and manage their own resources, plan and execute development works and remain accountable to their constituents defines the true success of decentralised governance.

Keywords

Local Self-Government Institutions, State Finance Commission, Own Source Revenue, Plan Fund Allocation, Participatory Governance, Fiscal Devolution, Grama Sabha, Revenue Mobilisation, Capacity Building

Discussion

3.3.1 Decentralisation in Kerala

- Kerala leads in participatory decentralisation reform

Decentralisation refers to the transfer of decision-making authority, resources, and responsibilities from central governments to subordinate or quasi-independent government organisations. In the Indian context, decentralisation gained constitutional legitimacy through the 73rd and 74th Constitutional Amendments, enacted in 1992. These amendments institutionalised Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) as the third tier of governance, giving them constitutional recognition and mandating elections, financial devolution, and local-level planning. Kerala stands out as a pioneering state in implementing decentralisation in both spirit and substance. The state's approach was catalysed by the enactment of the Kerala Panchayat Raj Act and Kerala Municipality Act in 1994, aligned with the constitutional mandate. However, Kerala's decentralisation process went beyond mere legal frameworks. The launch of the People's Plan Campaign (PPC) in 1996 marked a turning point. Under this initiative, 35–40% of the State Plan outlay was devolved to local governments, with the clear objective of ensuring participatory local-level planning.

Kerala's commitment to decentralisation was reflected not just in fund transfers, but also in the autonomy granted for decision-making, institutional support for capacity-building,

- Kerala institutionalised empowered grassroots governance

and the creation of guidelines and mechanisms for social accountability. Gram Sabhas (village assemblies) and Ward Committees were empowered to prioritise development needs, thus making governance more inclusive and responsive. The State created a multi-tiered planning and execution architecture. Local governments were entrusted with the preparation of Five-Year Plans, Annual Plans, and sectoral projects, covering areas such as health, education, infrastructure, and social welfare. Technical support was provided by institutions like the State Planning Board and Kerala Institute of Local Administration (KILA). Additionally, the Decentralisation Coordination Committee, chaired by the Chief Minister, was set up to coordinate and supervise the implementation of decentralised plans.

- Kerala's deep decentralisation boosts inclusive service delivery

Performance audits and social audits were made integral to the process, strengthening transparency and accountability. Kerala's democratic decentralisation thus emerged as a model of 'deep decentralisation', whereby substantial financial and functional powers were transferred along with strong participatory mechanisms. One of the major achievements of decentralisation in Kerala has been the strengthening of service delivery, particularly in primary health care, public education, and rural infrastructure. Empirical data reveal that local governments were successful in implementing need-based, location-specific projects with high public engagement. The model also enabled the mainstreaming of marginalised groups through gender budgeting and Scheduled Caste Sub-Plans.

- Kerala's local governance needs fiscal and capacity reform

Kerala was among the first states to initiate Performance-Linked Grants and Outcome-Based Budgeting at the local level, pushing local bodies to focus on efficiency and results. Women's participation through Kudumbashree networks further deepened social capital and developmental outreach. Despite the substantial progress, the process is not without challenges. Fiscal dependency on the state government, delays in fund release, limited capacity for technical planning, and poor maintenance of assets are recurrent issues. Furthermore, the limited mobilisation of own-source revenue by local governments continues to undermine their fiscal autonomy. The continued dependence on centrally sponsored schemes also restricts the autonomy of local bodies. To address these, there is an increasing need to reform revenue-sharing mechanisms, build capacity at the grassroots, and strengthen monitoring and data-driven governance. Policy instruments like the Fourth State Finance Commission have highlighted the need for a more transparent, formula-based, and timely fiscal transfer system to sustain decentralisation in the long run.

3.3.2 Evaluation of Decentralisation in Kerala

- Kerala's deep and participatory decentralisation model

Kerala is widely recognised for having one of India's most effective decentralisation models, rooted in the 73rd and 74th Constitutional Amendments, which formalised local governance through Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs). While these reforms were adopted nationwide, Kerala stood out with its ambitious People's Plan Campaign (PPC) launched in 1996, which marked a genuine devolution of powers of planning, budgeting, and implementation to local bodies. Nearly 35–40% of the state's development funds were transferred to these bodies, reflecting a political commitment beyond mere legal compliance. The three-tier Panchayati Raj system and urban local bodies were tasked with preparing their own development plans and delivering a wide range of public services. This was supported by institutions like KILA for capacity-building and digital platforms such as Sulekha, Sevana, and Plan Space to improve transparency and efficiency of governance.

- Kerala's empowered participatory governance model

Kerala's decentralisation marked a shift from the traditional 'top-down' model to a 'bottom-up' approach, encouraging direct citizen participation in governance through Gram Sabhas and local planning processes. What set Kerala apart was not just its adoption of decentralised structures, but its sustained political will, active social mobilisation, and administrative innovation. This made it a model of participatory governance recognised by scholars and institutions alike. More than creating local institutions, Kerala empowered them to function as accountable, development focussed agents, significantly improving service delivery, promoting social justice, and inclusive development, earning it the reputation of a model for local democracy in India.

Kerala is widely acknowledged as a leader in decentralised governance, largely due to the transformative People's Plan Campaign (PPC) launched in 1996. This initiative restructured planning and budgeting by shifting power and resources to the grassroots, particularly empowering Gram Sabhas. These forums promoted transparency, inclusivity, and local accountability, enabling citizens to influence development

• Kerala sets benchmark in participatory fiscal decentralisation

priorities such as water supply, anganwadis, and health centres. Financial devolution has also been central, with 25% to 40% of the state's plan outlay consistently allocated to Local Self-Governments (LSGs), far exceeding the national average. This fiscal autonomy has allowed Panchayats and Municipalities to implement impactful programmes in health, education, sanitation, and housing, contributing to Kerala's strong Human Development Indicators. Key to this success has been capacity-building through institutions like KILA, which trains local officials in planning, budgeting, and auditing. Combined with digital platforms such as Sulekha and Sevana, Kerala's model enables LSGs to independently manage and audit large-scale projects, setting a national benchmark in participatory and fiscally empowered local governance.

• Kerala's decentralisation faces fiscal, administrative, and capacity gaps

Despite Kerala's successes in decentralisation, several critical challenges persist. One of the most pressing is the weak mobilisation of Own Source Revenue (OSR), which accounts for less than 10% of total receipts in many rural panchayats. Over dependence on state and central grants compromises fiscal autonomy and sustainability. CAG reports have highlighted low tax collection efficiency due to outdated assessments and weak enforcement. Additionally, Gram Panchayats face serious human resource shortages, lacking technical staff such as engineers and accountants, which hampers project planning and execution. Procedural complexity has also led to planning fatigue, causing delays in fund utilisation and discouragement among stakeholders. Despite significant progress, Kerala's decentralisation model faces persistent challenges. The 2023 CAG report noted that 15% to 25% of plan funds remained unspent in several LSGIs due to slow project finalisation . This under-utilisation is often linked to administrative and structural issues rather than a lack of need. A key issue is the unclear functional boundaries between State departments and local governments, which lead to jurisdictional overlaps and diluted accountability. For instance, while primary health services are devolved, state departments often run parallel initiatives, causing confusion and inefficient use of resources. Furthermore, monitoring and audit mechanisms, while formally established, often suffer from poor enforcement. A 2022 audit review found that a staggering 40% of LSGIs had not acted on audit findings even after two years. This lack of follow-through weakens accountability and hinders the correction of fiscal and administrative inefficiencies, undermining the overall effectiveness of the decentralised governance framework.

Table 3.3.1 Trends in Fiscal Decentralisation ***(in crore)***

Financial Year	Total Plan Fund Allocation	Utilisation Rate (%)	OSR as % of Total Revenue
2015-16	5,765.00	85.10	28.50
2016-17	6,267.00	87.60	27.90
2017-18	6,769.00	89.20	26.80
2018-19	7,019.00	91.50	25.90
2019-20	7,269.00	92.10	24.80
2020-21	7,519.00	93.50	23.90
2021-22	7,769.00	94.10	24.20
2022-23	8,019.00	95.20	25.10
2023-24	8,269.00	95.80 (Provisional)	25.80 (Provisional)

Source: *Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports*

The data shown above highlights key trends in the evolution of decentralisation between 2015–16 and 2022–23. Plan fund allocation to LSGs rose steadily from ₹5,765 crore in 2015-16 to ₹8,019 crore in 2022-23, a 39% increase, signalling sustained political and administrative support for decentralised governance. This consistent rise reflects the growing role of LSGs in delivering grassroots public services. Contrary to the suggestion of a dip, the data indicates that the path of allocation was remarkably stable, even during periods of fiscal stress. For instance, during the COVID-19 pandemic, the allocation did not decrease; instead, it grew from ₹7,269 crore in 2019-20 to ₹7,519 crore in 2020–21. The continued increase in allocations throughout the period, including in 2021–22 and 2022–23, highlights a commitment to strengthening local governance structures, even in the face of significant economic challenges.

- Steady rise in plan funds despite pandemic dip

The fiscal performance of LSGs in Kerala shows a trend of increasing efficiency in fund utilisation, though challenges in revenue generation persist. Contrary to a decline, the utilisation of plan funds by LSGs has demonstrated a consistent and significant improvement over the years. In the fiscal year 2015-16, the utilisation rate stood at 85.10%. Despite challenges such as delays in fund release, procurement hurdles, and disruptions caused by events like the COVID-19 pandemic, this rate steadily climbed, reaching 93.50% in 2020-21 and further improving to 95.20% by 2022-23. This progress indicates the positive impact of systemic improvements, including the adoption of digital platforms for project management and enhanced capacity-building initiatives. However, a key

- Fund utilisation improved, OSR remains weak area of concern remains the mobilisation of OSR. While the initial estimate of 8-10% was low, the actual data shows that OSR as a percentage of the total revenue of LSGs has fluctuated between 23.90% and 28.50% over the last decade. Although higher than initially stated, this figure still reflects a deep dependence on state and central grants to meet local expenditure needs. The underlying causes for this dependency, as pointed out in various economic reviews, include outdated tax assessments, a lack of incentives for tax collection, limited powers for local bodies to impose new charges, and weak enforcement mechanisms. Improving the mobilisation of Own Source Revenue is therefore vital for the long-term fiscal sustainability and autonomy of local governments. Improving OSR would not only reduce dependency on higher levels of government but also foster greater accountability and strengthen the foundations of effective decentralised governance in Kerala.

- Kerala's decentralisation leadership

Kerala's decentralisation journey is a landmark model of democratic deepening and service delivery reform in India. Kerala's achievements in decentralisation offer valuable lessons for the rest of India. Yet, to retain its leadership in local governance, it must now focus on consolidation, innovation, and sustainability. A strong, financially empowered, and citizen centric local government system is the key to Kerala's inclusive and strong development in the years to come.

3.3.2.1 Issues of Fiscal Decentralisation in Kerala

- Structural and functional issues

Despite Kerala's long-standing commitment to decentralisation and its impressive achievements in grassroots governance, fiscal decentralisation, the financial empowerment of LSGs, remains fraught with several critical challenges. These issues are both structural and functional, often stemming from inadequate autonomy, weak institutional mechanisms, and dependence on higher-tier governments.

- Low OSR limits LSG autonomy and development

1. **Inadequate Own Source Revenue (OSR):** A key challenge for LSGs in Kerala is their persistently low OSR, which has rarely crossed 10% of total receipts in the past decade. This over-dependence on state-assigned grants undermines fiscal autonomy, limits independent decision-making, and weakens accountability to citizens. Contributing factors include outdated property tax records, political delay to revise rates, inefficient tax collection, lack of user charges for basic services, and weak revenue administration. Without targeted reforms

to strengthen OSR mobilisation, LSGs will remain fiscally constrained and unable to fully meet local development needs.

2. **Delay and Unpredictability in Fund Transfers:** Another recurring problem is the irregularity in fund disbursement from the state government to LSGs. Though the Finance Commission and the State Finance Commission recommend formulas and timelines for devolution, in practice, delays are common. These delays affect annual plan execution, disrupt service delivery, and often force LSGs to reduce expenditure in the last quarter of the financial year, affecting the quality of implementation. Unpredictable flows of funds also make it difficult for local bodies to plan multi-year projects or invest in capital infrastructure. The lack of a stabilisation mechanism to smoothen fiscal transfers in low-revenue years exacerbates this issue further.

- Delayed fund flows disrupt LSG planning and delivery

3. **Lack of Long-Term Planning and Development:** Although Kerala's LSGs have institutionalised annual participatory planning, their vision often remains confined to short-term project cycles rather than long-term development strategies. This narrow outlook prevents the creation of coherent frameworks for addressing complex issues such as infrastructure modernisation, waste management, climate resilience, and economic diversification. In the absence of multi-year investment planning, projects tend to be fragmented, reactive, and poorly coordinated, leading to inefficiency and duplication of efforts. Capacity gaps, limited technical expertise, and reliance on state-driven budgetary processes further weaken the ability of LSGs to design forward looking interventions. As a result, decentralisation risks becoming an incremental exercise, where urgent needs are met but transformative, sustainable development goals are neglected.

- LSGs focus on short-term needs, neglect long-term strategy

4. **Absence of Functional Clarity and Departmental Overlap:** Although Kerala has devolved substantial responsibilities to LSGs in sectors like health, education, sanitation, and infrastructure, there is still a lack of clarity on functional jurisdiction. Departments at the state level often continue to execute projects that have been constitutionally or administratively assigned to LSGs. This duplication of functions results in confusion, inefficient resource use, and weak accountability

- Departmental overlaps weaken LSG autonomy and efficiency mechanisms. For example, primary health services fall under the scope of LSGs, but state departments and centrally-sponsored schemes continue to run parallel health initiatives. This leads to overlapping responsibilities without adequate coordination.

- Capacity gaps hinder effective local financial management

5. **Limited Capacity in Financial and Project Management:** Despite multiple training initiatives, many LSGs in Kerala, especially in rural and semi-urban areas, continue to face capacity constraints in financial management, project preparation, and technical execution. Many smaller panchayats do not have qualified engineers, accountants, or planning officers. Even with digital platforms like Sulekha (for planning) and Sanchaya (for tax administration), local functionaries often lack the training to fully utilise these tools. This results in poor fund utilisation, cost overruns, and substandard infrastructure. In many cases, LSGs depend on external consultants or agencies for core functions, undermining local ownership and control.

- Accountability gaps weaken decentralised governance

6. **Weak Accountability and Audit Mechanisms:** Weak accountability remains a major concern in Kerala's decentralisation framework. While mechanisms like social audits, grama sabhas, and performance evaluations exist, they often lack substantive supervision and follow-through. CAG reports have repeatedly flagged issues such as fund diversion, misclassified expenditures, audit non compliance, and underutilised performance grants. These point to the need for stronger internal audits, transparent procurement, and regular capacity building for elected representatives and staff. Strengthening these systems is critical for ensuring that decentralisation leads to truly responsive and accountable local governance.

- Decentralisation risks exclusion of marginalised groups

7. **Uneven Participation and Lack of Inclusive Development:** Despite Kerala's pioneering role in people's planning and the institutionalisation of grama sabhas, effective participation in local governance remains uneven and socially skewed. While decision-making spaces exist, they are often dominated by vocal elites, politically influential groups, or more privileged sections, leaving women, Scheduled Castes, Scheduled Tribes, and marginalised communities underrepresented. Barriers such as lack of information, social constraints, and participation fatigue further discourage broad-based involvement. This weakens the inclusiveness of local

planning and results in development outcomes that may not adequately reflect the priorities of the most vulnerable. Consequently, decentralisation falls short of its democratic promise, as local governance structures risk reproducing inequalities rather than fostering equitable and participatory development.

8. **Vertical Fiscal Imbalance and Centralisation:** Kerala's LSGs also suffer from broader issues within India's intergovernmental fiscal system. The vertical imbalance, where the central government collects most of the taxes while the states and local bodies bear the expenditure responsibilities, trickles down to the local level. LSGs often bear the burden of implementing centrally sponsored schemes without sufficient autonomy or flexibility in fund usage. Moreover, the design of schemes and release of funds by the Centre are often conditional, with limited room for local customisation. This top-down approach limits the scope of decentralised planning and responsiveness to local needs.

- Centralised schemes constrain local fiscal autonomy

The challenges in Kerala's fiscal decentralisation stem from deeper institutional and systemic issues rather than mere administrative inefficiencies. Despite notable progress, LSGs still face constraints due to a skewed fiscal framework, limited capacity-building, and top-down governance practices that control real autonomy. A meaningful policy shift is needed to transform decentralisation into a tool for participatory development. A critical reform area is the property tax regime, an underutilised but viable source of OSR. Many LSGs rely on outdated assessments and avoid revisions due to political pressures, leading to revenue loss. Introducing scientific tools like GIS mapping, market-based valuations, and automated records can improve revenue, equity, and transparency.

- Structural reforms needed in fiscal architecture and property tax

Kerala must institutionalise predictable, formula based fiscal transfers to LSGs, as irregular releases currently disrupt planning and lead to poor execution. A defined fiscal calendar with periodic releases would improve budget certainty and public trust. Functional overlaps between departments and LSGs in sectors like health, education, and agriculture also undermine efficiency and accountability. This requires clear activity mapping and functional devolution supported by adequate funds and personnel. Addressing capacity gaps is equally critical, many LSGs lack essential technical staff, affecting service quality and infrastructure planning.

- Future of Kerala's decentralisation hinges on structural reform

Investments in training, recruitment, and knowledge sharing, along with performance-based grants, can boost innovation. Finally, stronger transparency and accountability mechanisms are essential. While digital platforms like Sulekha and Sevana exist, their use is uneven. Kerala must expand real time dashboards, enforce social audits, and promote routine public disclosure to deepen participatory governance. Kerala's journey of decentralisation stands as a national model, but its future success depends on addressing these deep-rooted structural gaps. A reform agenda grounded in fiscal empowerment, administrative autonomy, and democratic accountability is the need of the hour. By bridging the disconnect between intent and execution, Kerala can truly realise the transformative potential of decentralised governance and build a more inclusive, efficient, and responsive state.

3.3.3 Kerala's State Finance Commissions

The 73rd and 74th Constitutional Amendments of 1992 mandated the establishment of State Finance Commissions (SFCs) in every state of India to strengthen fiscal federalism by decentralising financial power to Local Self-Government Institutions (LSGIs). Article 243I of the Indian Constitution requires states to constitute an SFC every five years to review the financial position of Panchayats and Municipalities and recommend principles for the distribution of finances between the state and LSGIs. Kerala, known for its pioneering decentralisation efforts, has actively institutionalised this mandate, having constituted five SFCs to date. Kerala has been a frontrunner in setting up State Finance Commissions. The First SFC was established in 1994, laying the foundation for a robust fiscal decentralisation framework. Subsequent commissions (SFC II to SFC V) have built upon this legacy by refining the transfer formulae, improving resource predictability, and recommending priorities for sectoral devolution. Each SFC has focused on principles of equity, efficiency, and autonomy. Notably, the Second SFC (2001–2006) and Fourth SFC (2011–2016) introduced critical changes, such as introducing a need-based formula, incentivising performance, and providing special grants for backward regions.

- Kerala's SFCs strengthened equity-driven local finance reform

The Fifth State Finance Commission (SFC V) of Kerala, established in 2015 for the 2016–2021 period, made key recommendations to strengthen fiscal decentralisation. It proposed that 25% of the state's net own revenue be devolved to Local Self-Government Institutions (LSGIs), with 19.5%

allocated to Panchayats and 5.5% to Urban Local Bodies, acknowledging the burdens of rural administration. For horizontal devolution, SFC V introduced a formula based on Population (70%), Area (10%), Backwardness (10%), and Tax Effort (10%). This ensured equitable distribution by addressing both need and performance, thereby reducing intra-state disparities. Beyond core devolution, the Fifth State Finance Commission (SFC V) introduced performance grants to reward LSGIs demonstrating improved OSR, timely audit compliance, and efficient fund utilisation. This aimed to promote accountability and strong fiscal practices. To support this, the Commission recommended setting up a monitoring and evaluation unit within the Finance Department to oversee fund transfers, review performance, and offer feedback. These measures signalled a shift from routine fund allocation to a performance-based, outcome-driven fiscal framework, encouraging LSGIs to take greater ownership of local development.

- SFC V strengthened equitable and performance-based devolution

In addition to these core devolution principles, the Commission introduced the concept of performance grants. These grants were to be awarded to LSGIs that met specific performance criteria such as improved OSR mobilisation, timely submission of audit compliance reports, and efficient plan fund utilisation. By incentivising good fiscal and administrative practices, the Commission aimed to instil a culture of accountability and responsiveness in local governance. Recognising the need for institutional strengthening, SFC V recommended the creation of a dedicated monitoring and evaluation unit within the Finance Department. This unit would track the timely transfer of funds, assess financial and performance reports of LSGIs, and provide necessary feedback to both the state government and the local institutions. The objective was to institutionalise a feedback loop that could improve transparency and performance over time. Overall, the Fifth SFC's recommendations marked a shift from fund distribution towards a performance based and outcome oriented fiscal architecture, encouraging LSGIs to take ownership of local development with greater autonomy and accountability.

- SFC V promotes outcome-based local fiscal accountability

Despite the forward looking recommendations of Kerala's Fifth State Finance Commission (SFC V), several challenges have hindered effective implementation. A key issue is the delayed constitution of Finance Commissions, creating fiscal uncertainty and disrupting planning for LSGs. Many LSGs also suffer from limited institutional capacity, with staff shortages and outdated administrative systems leading to low fund absorption. Functional devolution remains ambiguous, with overlapping roles and poor coordination in critical sectors like health and sanitation. Additionally, OSR mobilisation is weak due to political reluctance to revise property taxes, outdated assessments, and poor enforcement. These challenges risk weakens the goals of decentralisation unless addressed through capacity-building, digitisation, taxation reform, and clear functional demarcation.

- Implementation gaps weaken SFC V's transformative potential

The Sixth State Finance Commission (SFC) of Kerala was constituted on October 31, 2019, to review the financial position of local self-governments, namely Panchayats and Municipalities. The commission, led by Chairman S.M. Vijayanand, was tasked with recommending principles for the distribution of state taxes and grants-in-aid to these local bodies, in addition to providing a comprehensive assessment of the state's decentralised governance over the past 25 years.

- Kerala State Finance Commission reviewed local government

The commission's activities included extensive data collection, stakeholder consultations, and an analysis of previous SFC reports. This work culminated in a 'First Report' in December 2020 and a 'Second Report' in September 2021. A major focus of its recommendations was the devolution of funds, proposing a gradual increase in the Development Fund from 25% to 30% of the State Plan and an increase in the General Purpose Fund from 3.5% to 4% of the State's Own Tax Revenue (SOTR). It also recommended a new formula for distributing Maintenance Funds based on the actual assets of local governments and proposed measures to improve the collection of Own Source Revenue (OSR), such as linking property tax to land's fair value.

- Commission proposed increased fund devolution, better tax

In response to the commission's work, the Government of Kerala issued Action Taken Reports (ATRs), accepting many of the recommendations, including the increased devolution of the Development Fund, General Purpose Fund, and Maintenance Fund. However, the government rejected some key proposals, such as the formation of a new Local Government Revenue Board and making Building Tax a local government tax. It also rejected the recommendation to pass down the state's share of GST on entertainment and advertisement to local governments.

- Government accepted fund increase, rejected new boards

The Seventh State Finance Commission (SFC) of Kerala was constituted on September 26, 2024, by the Governor of

- Seventh SFC formed, led by Dr. K. N. Harilal

Kerala. The commission is chaired by Prof. Dr. K.N. Harilal, a former member of the Kerala State Planning Board, with Dr. A. Jayathilak IAS and Dr. Sharmila Mary Joseph IAS serving as members. The commission has been given a two-year term from the date of its constitution to review the financial position of Panchayats and Municipalities. Its key responsibilities include recommending principles for the distribution of state taxes and grants-in-aid to local governments and proposing measures to improve their financial standing. The commission is set to submit its recommendations on devolution by the end of December 2025 and on non-devolution aspects by the end of September 2026.

An analysis of SFC-based transfers from 2015–2023 reveals a gradual increase in financial allocations, driven largely by improved vertical devolution commitments and central recommendations. However, the utilisation rates and OSR-to-total revenue ratios vary considerably:

Table 3.3.2 Trends in Fiscal Decentralisation in Kerala (2015-2024) *(₹ in crore)*

Financial Year	Total Plan Fund Allocation	Utilisation Rate (%)	OSR as % of Total Revenue
2015-16	5,765.00	85.10	28.50
2016-17	6,267.00	87.60	27.90
2017-18	6,769.00	89.20	26.80
2018-19	7,019.00	91.50	25.90
2019-20	7,269.00	92.10	24.80
2020-21	7,519.00	93.50	23.90
2021-22	7,769.00	94.10	24.20
2022-23	8,019.00	95.20	25.10
2023-24	8,269.00	95.80 (Provisional)	25.80 (Provisional)

Source: *Kerala Budget Documents, Kerala Economic Review, Finance Accounts, CAG Reports*

The fiscal performance of Local Self-Government Institutions (LSGIs) in Kerala reflects a strong state commitment to decentralisation, marked by improved fund allocation and steadily increasing efficiency in fund utilisation, although challenges in independent revenue mobilisation persist. Between 2015 and 2023, Kerala saw a consistent rise in State Finance Commission (SFC) transfers to LSGIs. These allocations for local plans grew from ₹5,765 crore in 2015–16 to ₹8,019 crore in 2022–23, highlighting the growing recognition of the role LSGIs play in grassroots development. Contrary to showing a decline, the capacity of these local bodies to absorb and spend these funds has shown remarkable improvement. The plan fund utilisation rate has steadily climbed from 85.10% in 2015–16 to a robust 95.20% in 2022–23. This progress, achieved despite administrative delays and staffing shortages, points to the success of systemic improvements like digital platforms and enhanced capacity-building. While not as low as 9-10%, the data shows that OSR has fluctuated, standing at 28.50% in 2015-16 and hovering between 23.90% and 25.80% in the years leading up to 2023-24. This highlights a significant and continued dependence on state and central grants. Several structural issues contribute to this trend: outdated property tax rolls, low user charges due to political pressures, widespread exemptions, and weak enforcement mechanisms. Many LSGIs also lack trained revenue staff, and while digital tools like 'Sanchaya' exist, the adoption of GIS-based systems for comprehensive tax mapping is still limited, especially in rural areas . This situation reflects institutional inertia rather than mere fiscal oversight. Without meaningful reforms in property taxation, rationalised tariffs, and stronger administrative capacity, LSGIs will remain heavily dependent on state support, weakening the goal of true fiscal decentralisation.

- Rising transfers, stagnant capacity and OSR

Kerala's State Finance Commissions (SFCs) reflect both the strengths and shortcomings of fiscal decentralisation. The state stands out for institutionalising SFCs more effectively than most, regularly allocating a fixed share of net revenue to LSGIs and integrating this into fiscal planning. However, delays in constituting commissions, slow implementation of recommendations, and weak OSR bases limit the impact. Many local bodies lack trained personnel for budgeting, planning, and digital governance, weakening the effectiveness of decentralisation. Moving forward, Kerala must focus on administrative and fiscal capacity-building, enact legally backed formula based transfers, and reform property tax systems with digital tools. Linking platforms like Sulekha and Plan Space with real-time fund tracking can boost transparency. Citizen engagement through Grama Sabhas and participatory audits should be strengthened to reinforce grassroots accountability. While Kerala's model is a decentralisation pioneer, a second-generation reform agenda is essential to improve its efficiency, equity, and long-term sustainability.

- Second-generation reforms key to strengthening Kerala's decentralisation

3.3.4 Fiscal Situation of Local Self-Government Bodies

- Fiscal growth offset by capacity and utilisation gaps

Local Self-Government Institutions (LSGIs) in Kerala are among the most empowered in India, especially in planning, budgeting, and executing development programmes. Stimulated by the 73rd and 74th Constitutional Amendments and the People's Plan Campaign, Kerala led a bold move towards democratic decentralisation. However, true success requires more than legal empowerment, it depends on strong fiscal health, including reliable fund flow, strong OSR, effective utilisation, and accountability. From the fiscal year 2015–16 to 2022–23, plan fund allocations to Local Self-Government Institutions (LSGIs) in Kerala saw a significant 39% rise, increasing from ₹5,765 crore to ₹8,019 crore. This reflects the state's strong and consistent support for fiscal decentralisation, guided by the recommendations of the State Finance Commissions. Instead of lagging behind, fund utilisation by these local bodies has shown a remarkable and steady improvement. The utilisation rate, which was already a high 85.10% in 2015 – 16, climbed consistently over the years. It reached 93.50% in 2020 – 21 and further improved to an impressive 95.20% in 2022 – 23. This upward trend, maintained even through the disruptions of the COVID-19 pandemic, highlights the growing institutional strength and efficiency of the LSGIs rather than ongoing capacity constraints in fund absorption.

- Stagnant OSR reflects structural and institutional gaps

OSR is a key indicator of the financial autonomy of Local Self-Government Institutions (LSGIs). In Kerala, despite rising devolution from the State and Finance Commissions, OSR as a percentage of total revenue has remained a persistent challenge. While not as low as 9-10%, the data shows that OSR has fluctuated between 23.90% and 28.50% between 2015 and 2023, indicating a significant and continued dependence on state and central grants and raising concerns about the long-term sustainability of decentralised governance. Several structural issues contribute to this trend: outdated property tax rolls, low user charges due to political pressures, widespread exemptions, and weak enforcement mechanisms. Many LSGIs also lack trained revenue staff, and while digital tools like 'Sanchaya' exist, the adoption of GIS-based systems for comprehensive tax mapping is still limited, especially in rural areas. This situation reflects institutional inertia rather than mere fiscal oversight. Without meaningful reforms in property taxation, rationalised tariffs, and stronger administrative capacity, LSGIs will remain heavily reliant on state support, undermining the goal of true fiscal decentralisation.

- High fixed costs restrict developmental spending by LSGIs

Kerala's Local Self-Government Institutions (LSGIs) face an imbalanced expenditure pattern, with a large share of their budgets absorbed by committed expenditures such as salaries, pensions, and basic service maintenance. This is especially pronounced in urban local bodies with extensive staffing and service demands, leaving limited fiscal space for capital investments in infrastructure, housing, or local development. Even capital spending is constrained by dependence on centrally sponsored schemes (CSS) and tied grants, which reduce local flexibility. The COVID-19 pandemic further diverted spending towards emergency response, delaying developmental projects, especially in rural areas. This overdependence on fixed costs hampers innovation and limits the ability of LSGIs to undertake impactful projects. A shift towards rebalancing expenditure, rationalising staff costs, and adopting efficient outsourcing models is necessary to enhance grassroots developmental outcomes.

- Institutional gaps hinder effective fiscal decentralisation execution

Kerala's Local Self-Government Institutions (LSGIs) face significant institutional and administrative challenges that impact fiscal performance beyond financial indicators. Delays in budget preparation and fund release, often due to late SFC finalisation or treasury bottlenecks, disrupt local planning cycles. Many gram panchayats lack skilled personnel to prepare quality Detailed Project Reports (DPRs), leading to inefficiencies in execution. Fiscal literacy among elected representatives is limited, making them depend on bureaucracy and weakening democratic supervision. Functional overlaps between departments, especially in sectors like sanitation and water, create confusion and inefficiency due to the absence of clear Activity Mapping. While Kerala has developed digital tools like Sulekha and Information Kerala Mission (IKM), integration with real-time financial systems remains incomplete. To translate financial devolution into real outcomes, Kerala must focus on institutional reforms, clarifying functional responsibilities, investing in staff training, and strengthening digital infrastructure.

Over the past decade, Kerala's Local Self-Government Institutions (LSGIs) have seen a substantial increase in financial allocations, alongside a remarkable improvement in their capacity to utilize these funds, signalling the state's strong and effective support for decentralisation. Plan fund transfers grew steadily from ₹5,765 crore in 2015–16 to ₹8,019 crore in 2022–23. Contrary to lagging behind, fund utilisation has shown consistent and impressive growth, climbing from 85.10% in 2015–16 to an exceptional 95.20% in 2022–23. This upward trend, maintained even through disruptions like the COVID-19 pandemic, reflects the growing institutional strength and efficiency of the LSGIs. However, a persistent challenge lies in the mobilisation of OSR. While not as low as previously estimated, OSR's contribution to the total revenue of local bodies has remained largely stagnant, hovering between 23.90% and 28.50% during this period. This highlights a continued, significant dependence on state and central grants. The Economic Reviews attribute this to systemic issues such as outdated property valuation, the absence of comprehensive GIS-based systems for tax mapping, and a general reluctance to revise user charges, all of which hinder local revenue growth. This trend shows a disconnect between the increasing financial allocations and the capacity of LSGIs to independently generate revenue, revealing a gap between fiscal devolution and true financial autonomy.

- LSGIs show strong fund use but weak OSR

Beyond financial indicators, Kerala's decentralisation has delivered notable qualitative gains in democratic participation and administrative innovation. The institutionalisation of Grama Sabhas has empowered communities to actively shape local plans, promoting a sense of ownership and making governance more responsive to local needs. E-Governance platforms like Sulekha and Sevana have significantly improved transparency, service delivery, and citizen trust through real-time data, automated processes, and public dashboards. Furthermore, Kerala's decentralised system demonstrated remarkable resilience during major crises like the 2018 floods and the COVID-19 pandemic. LSGIs were at the forefront, efficiently managing relief operations, public health responses, and community support systems. These successes are a direct result of the state's long-term investment in building grassroots capacity. However, sustaining such innovations and resilience requires a concerted effort to bolster the fiscal foundation of LSGIs, ensuring that these achievements remain structural and not merely episodic.

- Participatory gains and tech-led governance need sustained support

Kerala's LSGI fiscal journey from 2015 to 2023 reflects both democratic advancement and persistent financial constraints.

- Fiscal empowerment essential for deepening Kerala's decentralisation

While fund allocations have grown, low OSR and uneven utilisation reveal underlying structural issues. Strengthening decentralisation requires a multi-staged approach: modernising property tax through regular revisions and GIS-based assessments, mandating digitised revenue and budgeting systems integrated with state platforms, and incentivising high performing LSGIs through performance linked grants. The State Finance Commission's role must also evolve to include audit trails, fiscal discipline, and capacity-building mandates. True fiscal decentralisation is about creating strong, accountable, and financially empowered local institutions, ensuring that Kerala's democratic achievements are matched by fiscal strength and efficiency in governance.

Summarised Overview

Kerala has emerged as India's most prominent model of decentralisation, building on the 73rd and 74th Constitutional Amendments that mandated local self-governance through Panchayati Raj Institutions and Urban Local Bodies. Unlike many other states, Kerala went beyond legal compliance and launched the People's Plan Campaign in 1996, devolving nearly 35–40% of its plan outlay to local governments. This shift institutionalised participatory planning, empowered Gram Sabhas and Ward Committees, and created a multi-tiered structure for preparing five-year and annual plans in areas such as health, education, infrastructure, and social welfare. Institutions like the Kerala Institute of Local Administration and digital platforms like Sulekha and Sevana supported this process, while performance and social audits reinforced accountability.

Over the past decade, financial devolution to Local Self-Government Institutions (LSGIs) has steadily grown, with plan fund allocations rising from ₹5,765 crore in 2015–16 to over ₹8,000 crore in 2022–23. Fund utilisation has also improved impressively, climbing from 85% to over 95%, reflecting institutional maturity even during crises like the pandemic. However, Own Source Revenue (OSR) has remained stagnant, fluctuating between 23% and 28% of total revenue. Outdated property tax assessments, weak enforcement, and political reluctance to revise user charges have left LSGIs dependent on state and central grants, limiting their fiscal autonomy.

Kerala's State Finance Commissions have been central to this process, recommending predictable and equitable transfers, performance grants, and accountability mechanisms. The Fifth SFC, for instance, called for devolving 25% of state revenue, introduced need-based and performance-linked criteria, and pushed for audit compliance. Yet, implementation gaps, delayed constitutions of SFCs, weak institutional capacity, and poor OSR mobilisation have slowed progress.

Despite these challenges, Kerala's decentralisation has transformed service delivery, strengthened democratic participation, and enhanced resilience during crises such as floods and COVID-19. Women's participation through Kudumbashree and gender budgeting have mainstreamed inclusivity, while e-governance platforms have improved transparency. Still, structural gaps persist, including functional overlaps between departments and LSGIs, delays in fund flows, capacity shortages in financial and project management, and weak accountability in audits and monitoring.

Kerala's decentralisation success rests on strong political will, participatory planning, and consistent financial support, but its future depends on second-generation reforms. These include modernising property taxation with GIS-based mapping, instituting predictable formula-based transfers, strengthening staff capacity, and linking digital platforms to real-time fiscal monitoring. By consolidating these reforms, Kerala can move from a model of participatory governance to one of financially empowered, accountable, and sustainable local self-government.

Assignments

1. Discuss the evolution of decentralisation in Kerala.
2. Analyse the challenges faced by LSGIs in mobilising OSR.
3. Evaluate the role of the SFC in ensuring fiscal decentralisation.
4. Discuss the trends in Plan Fund allocation and utilisation rates in Kerala.
5. Suggest measures to improve the effectiveness of fiscal decentralisation in Kerala.

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

BLOCK 4

Contemporary Challenges and Responses of the State

UNIT 1

Economic Challenges

Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend the key economic challenges
- know the financial status of the state
- describe the infrastructure status of Kerala
- examine government policies and initiatives aimed at improving energy infrastructure

Background

Kerala's economy has demonstrated remarkable resilience in recent years, recovering swiftly from both national and global economic shocks such as the COVID-19 pandemic, demonetisation, and natural disasters including floods and cyclones. This recovery has been supported by effective government policies that emphasise revenue mobilisation, welfare programmes, and efficient expenditure management, enabling the State to sustain economic growth while maintaining social development priorities. Infrastructure development has played a central role in this progress, with significant improvements in road networks, port facilities, inland waterways, telecommunication, housing, and energy supply. In particular, the energy sector is gradually transitioning towards a sustainable and resilient system, with hydroelectric power as the backbone and increasing investments in solar, wind, and hybrid renewable energy projects. At the same time, Kerala continues to face economic challenges, including high committed expenditure, fluctuating revenue receipts, and rising public debt, which place pressure on fiscal stability. Despite these constraints, the State maintains a strong focus on human development, infrastructure investment, and sustainable energy, with fiscal strategies designed to balance welfare spending with developmental needs. This unit deals with how Kerala manages its economic challenges while promoting inclusive growth, sustainable infrastructure, and social well-being.

Keywords

Fiscal Deficit, Revenue Deficit, Primary Deficit, Renewable Energy, Non-Renewable Energy Infrastructure

Discussion

4.1.1 Kerala's Fiscal Position

As per the Economic Review 2024, in recent years Kerala's economy has demonstrated strong growth, even with several economic shocks from national and international events. By 2022, Kerala's real Gross State Domestic Product (GSDP) had already recovered to pre pandemic levels, reflecting the State's economic resilience. This recovery can be attributed to effective government policies, particularly those aimed at enhancing revenue mobilisation and controlling non-essential expenditures, while maintaining a strong focus on welfare initiatives Kerala's economy has been impacted by several unforeseen events, including:

- National Events: Demonetisation (2016–17) and the implementation of the Goods and Services Tax (GST) (2017–18).
- Natural Disasters: Cyclone Ockhi and the devastating floods of 2018 and 2019.
- Global Challenges: The COVID-19 pandemic, the Russia–Ukraine war and tensions in the Middle East.
- Policy Constraints: Borrowing limits imposed by the Union Government from 2022–23 onwards.

- State successfully increased its tax revenue and controlled unnecessary expenditures

In spite of these challenges, the State successfully increased its tax revenue and curtailed avoidable spending. This enabled Kerala to sustain economic growth without compromising on welfare schemes or development projects. Kerala's public finance today reflects a combination of moderate growth in its own revenue and rising fiscal pressures arising from increasing expenditure commitments. As per the Economic Review 2024, the following sections highlight the key trends in the State's present financial condition.

4.1.1.1 Major Deficit Indicators

A deficit occurs when the government's expenditure exceeds its income. Kerala monitors the following three key indicators to assess its fiscal health:

i. **Revenue Deficit:** Revenue Deficit is the excess of revenue expenditure over revenue receipts. It indicates whether the government is able to meet its regular operational expenses like salaries, pensions and subsidies from its current income.

- 2022 – 23: Revenue Deficit was 0.90% of GSDP.
- 2023 – 24: Revenue Deficit increased to 1.58% of GSDP.
- 2024 – 25 (BE): Revenue Deficit projected to reach 2.12% of GSDP.

- Kerala's deficit indicators are a cause for concern, though not yet alarming

ii. **Fiscal Deficit:** Fiscal Deficit represents the total borrowing requirement of the government. It includes both revenue deficit and capital expenditure not supported by revenue.

- 2022 – 23: 2.50% of GSDP
- 2023 – 24: 2.99% of GSDP
- 2024 – 25 (BE): Estimated at 3.40% of GSDP

Although still within the limits of the Fiscal Responsibility and Budget Management (FRBM) Act, the rising trend reflects increased dependence on borrowings for development and welfare spending.

iii. **Primary Deficit:** Primary Deficit is the fiscal deficit minus interest payments. It reflects the need for borrowing even after excluding past debt obligations. Primary Deficit is also rising, indicating higher borrowing even for non-interest liabilities.

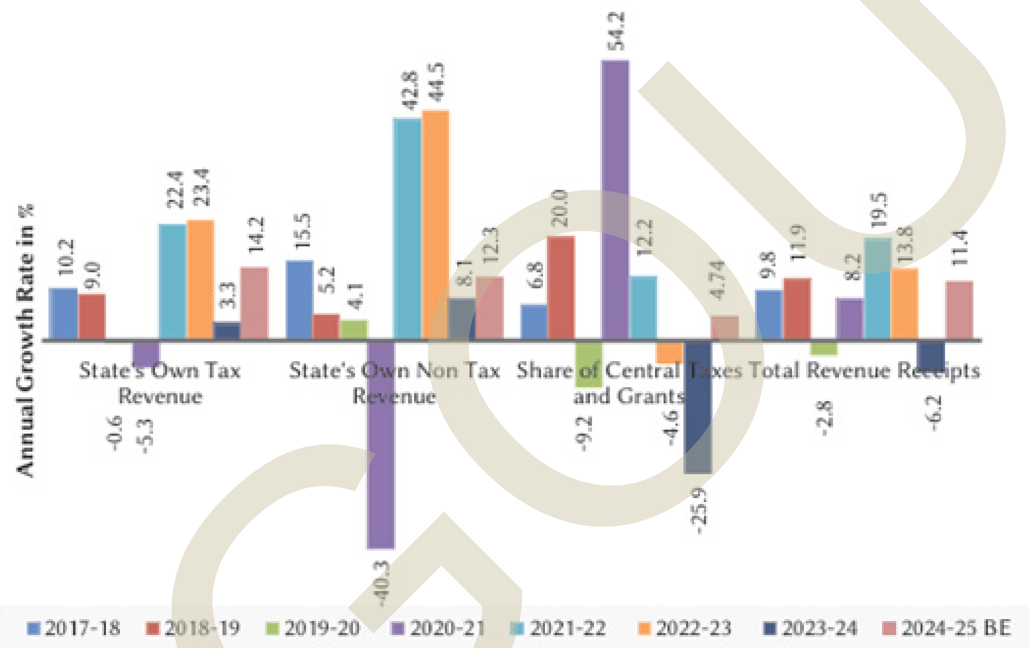
Table.4.1.1 Major Deficit Indicators from 2012-2013 to 2023-24 Rs in Crore

Year	Revenue Deficit		Fiscal Deficit		Primary Deficit	
	Amount	% to GSDP	Amount	% to GSDP	Amount	% to GSDP
2012-13	9351.45	2.27	15002.47	3.639	7797.66	1.89
2013-14	11308.6	2.43	16944.13	3.644	8678.74	1.87
2014-15	13796	2.69	18641.72	3.637	8872.13	1.73
2015-16	9656.81	1.73	17818.46	3.194	6707.61	1.20
2016-17	15484.59	2.44	26448.35	4.17	14331.85	2.26
2017-18	16928.21	2.41	26837.41	3.83	11717.48	1.67
2018-19	17461.92	2.22	26958.30	3.42	10210.39	1.30
2019-20	14495.25	1.78	23837.48	2.93	4622.78	0.57
2020-21*	20063.51	2.60	35203.69	4.56	14228.33	1.84
2021-22*	20799.96	2.23	37306.47	3.99	14003.65	1.50
2022-23	9226.29	0.90	25554.54	2.50	378.18	0.04
2023-24	18140.19	1.58	34257.78	2.99	7271.56	0.63
2024-25 BE(*Budget Estimate)*	27846.05	2.12	44528.96	3.40	15834.72	1.21

Source-Finance Department Government of Kerala

4.1.1.2 Receipts of the State Government

The State Government's receipts are divided into revenue receipts and capital receipts. Revenue receipts comprise the State's own tax and non-tax revenues, the share of Central tax transfers and grants-in-aid from the Government of India. Capital receipts consist of debt receipts from internal resources, loans and advances from the Government of India, disinvestment receipts, recoveries of loans and advances and net accretions under the public account.



Source-Finance Department Government of Kerala

- Kerala's revenue growth is volatile nature

Kerala's total revenue receipts have shown considerable volatility between 2017-18 and 2024-25 (BE). After registering steady growth in the pre-pandemic years (9.8% in 2017-18 and 11.9% in 2018-19), the state experienced a contraction in 2019-20 (–2.8%). A strong bounce back occurred in 2022-23 with 19.5% growth, but this was followed by another sharp decline in 2023-24 (–6.2%). The 2024-25 budget estimates, however, project a recovery at 11.4%, reflecting optimism about the financial outlook.

- Own Tax Revenue is the most reliable and sustainable source

The state's own tax revenue has been the most consistent and dependable source. Before the pandemic, it recorded steady growth of around 9–10%. The pandemic years saw small contractions (–0.6% in 2019-20 and –5.3% in 2020-21). The post-pandemic revival has been strong, with 22.4% growth in 2021-22 and 23.4% in 2022-23. Projections for 2023-24 (14.2%) and 2024-25 (15.5%) confirm its role as the backbone of Kerala's finances.

By contrast, the state's own non-tax revenue has been highly volatile. It collapsed by –40.3% in 2020-21 due to pandemic disruptions in sources such as royalties, fees, and fines. The subsequent years witnessed resurgence, with 42.8% growth in 2022-23 and 44.5% in 2023-24. However, these spikes mainly reflect the base effect and reveal that this source cannot be relied upon for stable budgeting. The share of central taxes and grants represents another uncertain component. Growth has been unstable , with increases of 20% in 2018-19 and a surge of 54.2% in 2021-22, likely due to special relief packages. However, this was followed by a steep decline of –25.9% in 2022-23. The 2024-25 BE also projects a fall of –4.6%, highlighting Kerala's fiscal vulnerability to fluctuations in central transfers and policy decisions.

- Non-Tax Revenue and Central Transfers remain unstable, uncertain and limiting

4.1.1.3 Expenditure of Kerala

The expenditure of the Kerala State Government is broadly classified into three major components: Revenue Expenditure, Capital Expenditure and Expenditure on Loan Disbursements. Kerala's total expenditure has shown a steady increase over the years, rising from ₹76,744.12 crores in 2014 – 15 to ₹1,59,506.24 crores in 2023 – 24, with a Compound Annual Growth Rate (CAGR) of 7.81%. Between 2022 – 23 and 2023 – 24, there was a notable shift in the composition of expenditure: Plan expenditure increased by ₹1,560.53 crores, while non-plan expenditure decreased by ₹792.72 crores. In the year 2023 – 24, non-plan expenditure accounted for ₹1,25,195.73 crores, making up 78.49% of the total expenditure, whereas Plan expenditure stood at ₹34,310.51 crores, constituting 21.51%.

- Total expenditure has recorded a gradual upward trend over the years

1. **Revenue Expenditure:**Revenue expenditure refers to the regular operational expenses of the State Government and includes both development and non-development spending. Development expenditure covers key sectors such as education, health, agriculture, animal husbandry, industries, labour and employment. Non-development expenditure includes interest payments, pensions, debt charges and administrative services. In 2023 – 24, Kerala's revenue expenditure increased marginally to ₹1,42,626.34 crores from ₹1,41,950.94 crores in 2022–23. Of this, plan revenue expenditure was ₹18,620.61 crores, while non-

- Revenue Expenditure includes both development and non-development spending

plan revenue expenditure stood at ₹1,24,005.73 crores. The ratio of revenue expenditure to GSDP declined from 13.87% in 2022 – 23 to 12.44% in 2023 – 24, indicating improved efficiency in spending relative to the State's economic output. A significant portion of revenue expenditure is committed expenditure, which includes unavoidable liabilities such as salaries, pensions, interest payments, subsidies and devolution to Local Self Government Institutions (LSGIs). In 2023 – 24, committed expenditure accounted for 71.26% of total revenue expenditure, a slight decline from 71.54% in the previous year. Salaries and pensions alone made up 45%, while interest payments constituted 18.92% of the total revenue expenditure, leaving limited fiscal space for new development programmes.

- Capital expenditure plays a role in building long term infrastructure

2. **Capital Expenditure:** Although Kerala's investment in human capital sectors like education and health is largely classified under revenue expenditure, capital expenditure plays a vital role in building long term infrastructure and promoting sustainable economic growth. In 2023 – 24, Kerala's capital expenditure stood at ₹16,880.17 crores. To support capital investments, the State Government has introduced innovative financing models, which have helped attract long term investments into major infrastructure projects, contributing positively to the State's development trajectory. The capital expenditure was directed across various sectors, with Public Works receiving the highest share. The major sectors and their respective shares in total capital outlay in 2023 – 24 are as follows:

Table 4.1.2 Kerala's Capital Outlay by Sector- (2023-24)

Sector	Share of Total Outlay (%)	Amount (₹ in crore)
Public Works	**16.70%**	**₹2,819.99**
Industries and Labour	**4.03%**	**₹680.17**
Agriculture & Allied Activities	**2.75%**	**₹464.20**
Irrigation	**2.51%**	**₹423.69**
Other Sectors	**74.01%**	**₹12,492.12**
Total	**100.00%**	**₹16,880.17**

Source:Economic Review 2024

These investments reflect the State's commitment to enhancing its physical infrastructure and promoting inclusive growth across sectors.

3. **Expenditure on Loan Disbursements:** Expenditure on loan disbursements refers to the funds provided by the State Government as loans and advances to public sector undertakings, local bodies, cooperative institutions, and other entities for developmental and productive purposes. Loan disbursement is an important part of the State's total expenditure, along with revenue and capital expenditure. Although it does not generate immediate income, it supports long-term development by financing projects that create assets or generate returns in the future. In 2023-24, Kerala's total expenditure was Rs 1,59,506.24 crore, with loan disbursements forming a smaller but significant portion of this spending.

- Loan disbursement is a part of the State's total expenditure

4.1.1.4 Debt Profile of State

Debt outstanding of the State includes:

i. internal debt, including market loans and loans from financial institutions,

ii. loans and advances from the Union Government, and

iii. liabilities on account of Small Savings, Provident Fund deposits, etc.

As per the economic review 2024, at the end of 2023-24, the outstanding public debt of the State was Rs 2,67,989.99 crore. The Public Debt–GSDP ratio stood at 23.25 per cent in 2022-23 and 23.38 per cent in 2023-24. The total outstanding liabilities of the State, which were 35.38 per cent in 2022-23, decreased to 34.20 per cent in 2023-24.

- Kerala's debt profile indicates a significant reliance on internal borrowing

In 2023-24, the share of internal debt in the public debt of the State was 95.96 per cent. Outstanding internal debt increased to Rs 2,57,157.92 crore in 2023-24 from Rs 2,27,137 crore in 2022-23, recording a growth rate of 13.22 per cent.

Liabilities under loans and advances from the Centre marginally decreased to Rs 10,832.07 crore in 2023-24 from Rs 10,863.90 crore in 2022-23. The share of Central loans in the public debt of the State was only 4.04 per cent in 2023-24. Outstanding liabilities under Small Savings, Provident Fund, etc., at the end of 2023-24 were Rs 1,23,944.24 crore, compared to Rs 1,24,190.92 crore in 2022-23. The gross and net retention of debt in 2023-24 was Rs 29,742.34 crore and Rs 2,793.33 crore, respectively. Kerala wants to maintain long-term financial stability by increasing income from taxes and other sources. The State plans to control spending, get proper support from the central government, and use state resources more efficiently. To do this, Kerala needs strong and creative financial strategies. Good management of money and resources is important for achieving the State's development goals and boosting the economy.

4.1.2 Economic Challenges of Kerala

Kerala faces several economic challenges that affect its financial stability and growth. High revenue and capital expenditures, rising debt, and the need to balance development spending with limited resources are key concerns. Based on the *Economic Review 2024*, the economic challenges faced by Kerala are explained in detail below:

- Decline in financial support from the Central Government, which has weakened the State's revenue position

1. **Decline in Central Transfers:** Kerala has experienced a significant decline in financial support from the Central Government in recent years, which has weakened the State's revenue position. One of the major setbacks was the end of GST compensation in June 2022, which led to an annual revenue loss of nearly ₹12,000 crores. In addition, grants-in-aid from the Centre dropped sharply by ₹15,309.60 crores in 2023 – 24. The Revenue Deficit Grants provided under the 15th Finance Commission also ended in 2023 – 24, creating a considerable funding gap. Furthermore, Kerala's share in the divisible pool of central taxes has been consistently falling-from 3.06% under the 11th Finance Commission to just 1.92% under the 15th Finance Commission. Compounding this issue, the Union Government has increased the use of cesses and surcharges, which are not shared with the States, further reducing Kerala's share in central transfers.

- Kerala's expenditure responsibilities have increased

2. **Change in CSS Funding Pattern:** The funding pattern of Centrally Sponsored Schemes (CSS) has undergone significant changes, increasing the fiscal pressure on States like Kerala. Earlier, several schemes were fully funded by the Centre, but now, most of them require the State to contribute 40% of the total cost. This shift has placed a greater financial burden on Kerala, especially when the State already faces revenue constraints. A notable example is National Highway Development,

where Kerala has to bear 25% of the land acquisition cost. Given the State's dense population and high land prices, these costs are disproportionately high. As a result, Kerala's expenditure responsibilities have increased and central financial support has not kept pace with this rise.

3. **High Committed Expenditure:** A major challenge in Kerala's public finance is the high level of committed expenditure, which significantly limits the State's fiscal flexibility. In 2023 – 24, committed expenditure accounted for 71.26% of the total revenue expenditure, leaving limited space for discretionary or developmental spending. This category includes essential but rigid expenses such as salaries, pensions, interest payments and devolution to Local Self Government Institutions (LSGIs). As these expenditures are non-negotiable and recurring, they constrain the State's ability to allocate funds for new projects, respond effectively to economic shocks or invest in infrastructure and growth-oriented sectors. This structural rigidity makes long-term fiscal planning more difficult and affects the sustainability of development efforts.

- Kerala's public finance is the high level of committed expenditure, which significantly limits the State's fiscal flexibility

4. **Kerala's key deficit indicators** have shown a worrisome upward trend in recent years, reflecting growing fiscal stress.

i. **Revenue Deficit:** Kerala's revenue deficit, which is the shortfall between revenue receipts and revenue expenditure, rose from 0.90% of GSDP in 2022 – 23 to 1.58% in 2023 – 24 and is projected to reach 2.12% in 2024 – 25 (BE).This rising trend indicates that the State is increasingly borrowing to meet its routine operational expenses such as salaries, pensions and subsidies.

ii. **Fiscal Deficit:** The fiscal deficit, representing the total borrowing requirements of the State, increased from 2.50% of GSDP in 2022 – 23 to 2.99% in 2023 – 24 and is expected to climb to 3.40% in 2024 – 25 (BE). While still within the permissible limits of the FRBM Act, the steady rise indicates greater reliance on borrowings to finance welfare schemes and development activities.

- Kerala's key deficit indicators have shown upward trend

iii. **Primary Deficit:** The primary deficit, which excludes interest payments from the fiscal deficit, has also been increasing. This shows that the State is borrowing even for non-interest obligations, reflecting a deeper dependence on borrowing beyond servicing past debts.

Together, these indicators highlight Kerala's increasing fiscal vulnerability and underscore the need for sustainable revenue enhancement and strict control of expenditure.

5. **Constraints on Borrowing :** Since 2022 – 23, the Union Government has imposed tighter limits on borrowings by the States, significantly affecting Kerala's fiscal flexibility.

Kerala's market borrowings include:

- Loans raised by Public Sector Undertakings (PSUs).
- Public Account surpluses such as Provident Fund and Treasury Savings

- Union Government has imposed tighter borrowing limits on States

Even though Kerala has maintained a relatively stable Debt - GSDP ratio, these restrictions have limited the State's capacity to borrow freely, even during times of pressing fiscal need. This has had a direct impact on the State's ability to finance development and infrastructure projects, thereby constraining long term investment planning. These constraints highlight the need for innovative financing models and enhanced revenue mobilisation to bridge the fiscal gap without over-relying on conventional borrowing routes.

- Capital outlay remains relatively low

6. **Limited Capital Expenditure:** Most of Kerala's public spending falls under revenue expenditure, which includes salaries, pensions and welfare subsidies. While these are essential for current consumption and social protection, they do not create physical assets or promote long term growth. As a result, capital outlay, which is crucial for infrastructure and productive investments, remains relatively low. Despite the government's efforts to introduce innovative financing models for infrastructure development, capital expenditure continues to be a small share of total government spending. This limits Kerala's ability to achieve sustainable economic growth.

7. **Rising Public Debt:** Kerala's public debt burden is rising, driven largely by internal borrowings and liabilities under small savings, provident funds and similar instruments.

- Total Public Debt (2023 – 24): ₹2,67,989.99 crores
- Debt-GSDP Ratio (2023 – 24): 23.38%

- Outstanding Internal Debt: ₹2,57,157.92 crores, which is 95.96% of total debt

- Kerala's public debt burden is rising

Although Kerala's Debt - GSDP ratio remains stable, the absolute size of debt is increasing, raising concerns about long term fiscal sustainability, especially under tightening borrowing constraints.

Despite fiscal pressures, Kerala has remained committed to a welfare and development driven model. The State continues to prioritise human development, equity and resilience through a variety of initiatives:

- Continued social security pensions to over 62 lakh beneficiaries.
- Strengthened Public Distribution System (PDS) to manage inflation.
- Launched major infrastructure projects like K-FON, Vizhinjam Port and Smart Classrooms.
- Effective response to public health emergencies such as COVID-19 and Nipah outbreaks.

- Kerala's actively safeguards public welfare even during difficult fiscal periods

These actions showcase Kerala's model of a developmental state that actively safeguards public welfare even during difficult fiscal periods.

4.1.3 Challenges of Infrastructure Development in Kerala

- Kerala has made significant progress in infrastructure development

Infrastructure plays a vital role in the economic and social development of any state. It includes basic facilities and services such as roads, bridges, water supply, electricity, housing, and public transport, all of which are essential for the smooth functioning of society and the economy. Kerala has made significant progress in infrastructure development over the years, particularly in areas like road networks, electricity, and health and education facilities. However, the state still faces several challenges due to its unique geographical features, high population density, and rapid urbanisation. These challenges affect economic growth, service delivery, and the overall quality of life of its residents. In the following sections, we will discuss the major challenges faced by infrastructure in Kerala.

4.1.3.1 Transport

According to the Economic Review 2024, one of the major challenges in Kerala's Road sector is the construction of all-weather roads that connect every village. Ensuring high-quality standards throughout the lifespan of roads is essential to make them durable and safe for users. Implementing regular inspections, preventive maintenance, and strict quality control can help extend road life, reduce repair costs, and enhance safety. In spite of these efforts, road construction in Kerala faces several obstacles, including land acquisition difficulties, funding constraints, and technical challenges. To address these issues, the government and planners need to explore innovative financing options, adopt modern technology and sustainable practices, improve project management techniques, and strengthen quality control and maintenance systems. By following these strategies, Kerala can develop a strong, efficient, and sustainable road network, which will not only improve connectivity across the State but also promote economic growth.

- Kerala's Road sector is the construction of all-weather roads that connect every village

As per the Economic Review 2024, the integration of port development with other sectors of economic growth is crucial for Kerala's future development. The Government has initiated several measures to strengthen the port sector, including developing new ports, upgrading existing facilities, mechanising operations, and improving connectivity and logistics. However, Kerala's ports still lag behind other ports at the national and international levels. Major challenges faced by Kerala's ports include inadequate road networks within port areas, insufficient cargo-handling equipment, and poor hinterland connectivity through rail, road, highways, coastal shipping, and inland waterways. To improve the sector, more focus is needed on expanding capacity, enhancing operational efficiency, and establishing a comprehensive framework for navigation and water transport.

- Kerala's ports still lag behind other ports at the national and international levels

Inland Waterway Transport (IWT) is considered the preferred mode for transporting Over Dimensional Cargo (ODC) due to its advantages over rail and road transport. Rail transport is limited by standard wagon sizes, while road transport faces route restrictions, time constraints, multiple permissions, and complex route surveys. As per the Economic Review 2024, cargo movement on National Waterway 3 (NW-3) has grown significantly over the last five years, from 0.55 MMT in 2019–20 to 3.29 MMT in 2023–24, indicating strong growth. However, IWT in Kerala faces several challenges, including limited infrastructure, shortage of inland vessels, non-availability of return cargo, and governance issues due to overlapping jurisdictions. To overcome these challenges, the government needs a comprehensive master plan for waterways that focuses on development projects for the movement of goods and people, operating the Kovalam-Kasaragod stretch according to national standards by 2025, providing incentives for modern vessels and improved terminal facilities, and enhancing connectivity between ports and the hinterlands.

- During 2023-24 cargo movement on National Waterway 3 (NW-3) indicating strong growth

4.1.3.2 Energy

According to the International Energy Agency's Electricity Mid-Year Update (2024), global electricity demand is projected to grow by around 4% in 2024, compared to 2.5% in 2023. India is one of the fastest-growing economies in terms of electricity demand, with an installed capacity of 4,41,970 MW as on March 31, 2024. At the national level, thermal energy is the dominant source of power, contributing nearly 55% of the total. In Kerala, however, the energy pattern is different. Electricity consumption is concentrated mainly in the domestic and commercial sectors, while agriculture accounts for only 1.7% of electricity consumption, far below the national average of 18%. Hydroelectric power continues to be the State's primary energy source, although renewable sources such as solar and wind are becoming increasingly important. Despite progress in strengthening power transmission and distribution, Kerala faces several challenges in the energy sector.

- Electricity consumption is concentrated mainly in the domestic and commercial sectors

As per the Economic Review 2024, One of the major challenges is the increasing demand for energy. The internal capacity of the State is sufficient to meet only about 30% of its total requirement, and during peak hours there is usually a deficit of 500–1000 MW, leading to frequent supply shortages. Another important issue is Kerala's dependence on external sources of electricity. Since the internal generation is limited, the State is heavily depend on power purchased from other States. This dependence makes Kerala vulnerable to fluctuations in both supply and cost, which in turn affects consumers. The integration of renewable energy also poses challenges. Although Kerala has good potential for generating solar and other renewable energy, there are difficulties in integrating it into the power grid without affecting stability. There is also a need to develop effective systems for storing renewable

- The increasing demand for energy

energy, because solar and wind power are variable and cannot ensure uninterrupted supply on their own. The development of infrastructure for electric vehicles is another concern. While the State is promoting the use of EVs as part of its strategy to reduce carbon emissions, the shortage of adequate charging stations across Kerala is slowing down the pace of adoption.

4.1.3.4 Telecommunication

According to the Economic Review 2024, India has the second-largest telecom sector in the world with 1.20 billion subscribers as of March 2024, and Kerala accounts for 3.64% of the total telephone connections, with 4.37 crore connections. The State recorded 93.73 million internet connections in March 2024, reflecting a 5.3% growth over the previous year. Interestingly, internet density is higher in rural areas (197.7 per 100 people) compared to urban areas (63.7). In terms of infrastructure, Kerala has 22,632 telephone towers and 1,14,326 Base Transceiver Stations (BTS), with Reliance Jio holding the largest share, followed by Vodafone Idea. To strengthen digital connectivity, the State has undertaken major initiatives such as the Kerala State Wide Area Network (KSWAN), which connects districts and government offices, and the Kerala Fibre Optic Network (K-FON), a flagship project designed to provide affordable internet, bridge the digital divide, and extend free connections to Below Poverty Line (BPL) families.

- India has the second-largest telecom sector in the world with 1.20 billion subscribers

Despite these initiatives, the sector faces some important challenges as highlighted in the Economic Review 2024:

- **Uneven Growth Between Rural and Urban Areas:** Rural tele-density is unusually high at 239.6%, while urban tele-density is lower at 87.6%, showing imbalances in coverage and usage.
- **Infrastructure Gaps:** Many rural areas still depend on limited towers and BTS capacity. There is also a need for faster 4G/5G expansion and better quality of service.
- **Internet Divide:** Although rural areas report higher per capita internet density than urban areas, this does not necessarily reflect the actual quality of service. Affordable broadband access is still limited despite K-FON's progress.
- **Financial Stress of Service Providers:** Companies like Vodafone Idea and BSNL face financial difficulties,

- The State had 93.73 million internet connections as of March 2024 which may affect service quality and reduce investment in network expansion.

4.1.3.5 Housing

Housing is an essential component of a State's economic and social development. It is not only a basic necessity but also a fundamental human right. Access to safe and affordable housing improves people's health, supports better education, and creates more opportunities for employment and income. Quality housing also helps reduce poverty and inequality and strengthens communities against economic and environmental challenges. Kerala has made notable progress in providing housing for poor and marginalised groups. Even before the introduction of centrally sponsored schemes, the State had its own programmes to supply affordable housing to those in need. Over the last five years, the Government of Kerala has given special attention to building houses for homeless families while ensuring quality standards. One of the major initiatives is the LIFE Mission, a comprehensive programme aimed at providing secure and improved housing to people living in poverty. However, the housing sector in Kerala still faces certain challenges. They are:

- Quality housing helps to reduce poverty and inequality

1. **High Population Density and Scarcity of Land:** Kerala is the third most densely populated State in India, with 870 persons per sq. km (Census 2011, Economic Review 2024). This high population density limits the availability of land for housing, especially in urban and coastal areas. Moreover, Coastal Regulation Zone (CRZ) restrictions and wetland conservation laws further reduce the land that can be used for housing development.

2. **Increasing Cost of Construction Materials:** The high prices of construction materials such as cement, steel, paint, wiring, and fittings significantly increase the financial burden on housing beneficiaries (Economic Review 2024). Although the LIFE Mission arranges bulk purchases at concessional rates, the cost of building a house remains high for low-income families.

3. **Homeless and Vulnerable Groups:** Data from the Socio-Economic Caste Census (SECC) and the LIFE Mission (Economic Review 2024) show that around 4.3 lakh houseless families were identified at the launch of the LIFE Mission in 2016. Special vulnerable groups such as orphans above 18 years, survivors of abuse,

and transgender persons continue to face challenges in accessing secure housing.

- To prevent challenges in the housing sector, the Kerala Government started a programme called LIFE Mission

4. **Environmental and Climate Challenges**: Kerala has faced natural disasters in recent years, including the floods of 2018 and 2019, which completely destroyed over 14,000 houses and partially damaged more than 1.4 lakh houses (Rebuild Kerala Development Programme, Economic Review 2024). Frequent landslides, coastal erosion, and extreme rainfall events continue to threaten housing security, particularly in ecologically sensitive regions.

5. **Dependence on External Financing:** Although housing loans are available through banks and cooperative institutions (Kerala State Housing Board, Economic Review 2024), interest rates and repayment obligations are often too high for poor families. Many economically weaker households struggle to access formal credit, limiting their ability to construct or improve houses.

4.1.4 Renewable and Non-Renewable Energy Sources in Kerala

The power sector in Kerala is undergoing a significant transformation, with a growing focus on sustainability and carbon neutrality. Though the State primarily relies on hydroelectric power, it is increasingly investing in renewable energy sources such as solar and wind. The goal is to build a resilient and reliable energy infrastructure capable of meeting the rising electricity demand while ensuring environmental sustainability.

4.1.4.1 Renewable Energy Sources

Kerala has made substantial progress in the adoption of renewable energy, particularly hydel and solar power.

- **Hydel Power**: This is the backbone of Kerala's power sector. As of March 31, 2024, hydropower accounts for 57.2% (2,183.57 MW) of the State's total installed capacity. The Kerala State Electricity Board Limited (KSEBL) operates 41 hydel stations with a combined capacity of 2,096.4 MW.

- **Solar Power**: Solar energy is the second largest renewable source in the State. As of 2023 – 24, solar power contributed 1,027.42 MW (26.9%) of the installed capacity. However, internal generation from KSEB owned solar plants was only 49.2 MW, indicating scope for expansion.

- Hydel power is the backbone of Kerala's power sector

- **Wind Power**: Although Kerala has moderate potential for wind energy, it currently contributes only 71.28 MW (1.9%). KSEB's own wind generation capacity is minimal (2.0 MW).
- **Initiatives like Angan Jyothi**: The 'Angan Jyothi project, under the Navakeralam Net Zero initiative, aims to create carbon neutral Anganwadis using energy efficient electric cooking systems, further promoting clean energy use.

4.1.4.2 Non-Renewable Energy Sources

- **Thermal Power**: Non-renewable energy in Kerala is mainly represented by thermal power plants. In 2023 – 24, the thermal capacity stood at 536.54 MW (14%). However, due to high generation costs, thermal power is not a major source for daily electricity needs. KSEB's thermal capacity (160 MW) remains mostly idle.

- The power sector in Kerala with a growing focus on sustainability and carbon neutrality

- **Nuclear Power**: There is no significant nuclear energy generation within Kerala. Nationally, nuclear power contributes only 1.8% of installed capacity.

4.1.4.3 Energy Sector Challenges in Kerala

1. **Resource and Policy Constraints:** Kerala faces limited funding and resources for developing renewable energy (RE) projects, including solar, wind, and small hydro. High land costs and difficulties in obtaining forest clearances create obstacles for the development of small hydro power projects.

2. **Project Delays:** Many hydro, solar, and other power projects in Kerala face delays in commissioning, which slows down energy generation. At the same time, there is a pressing need to enhance the state's internal generation capacity to meet the growing peak electricity demand.

- Kerala's energy sector aims to build a reliable energy infrastructure to meet the rising electricity demand

3. **Energy Storage and Grid Management:** Renewable energy sources such as solar and wind are intermittent, which can cause fluctuations in the power supply. To stabilise the grid, Energy Storage Systems (ESS) are required, and careful planning is necessary to integrate these storage projects effectively into the transmission network.

4. **Infrastructure and Modernisation Needs:** The transmission and distribution networks in Kerala need upgrading to reduce energy losses and improve reliability. The implementation of smart grids, high-voltage lines, and smart metering is essential. Modernisation is also required to support decentralised renewable energy and meet the growing demand from electric mobility (e-mobility).

5. **Energy Efficiency:** Many commercial and industrial sectors in Kerala do not follow energy-efficient designs, and existing inefficient appliances need to be replaced. The implementation of energy audits, Perform Achieve Trade (PAT) schemes, and other energy-efficient technologies is essential to reduce energy wastage and improve overall efficiency.

6. **Climate Resilience and Disaster Management:** Kerala is highly vulnerable to climate change, including floods, cyclones, and other extreme weather events. To ensure continuous power supply, the state's power systems must be resilient enough to withstand such natural disasters. For remote and disaster-prone areas, off-grid and micro-grid solutions, such as solar PV, wind-solar hybrid systems, and battery storage, are recommended to provide reliable electricity.

- Kerala is highly vulnerable to climate change

Summarised Overview

Kerala has demonstrated notable economic resilience, maintaining steady growth despite national and global shocks, supported by effective revenue mobilisation and welfare-focused expenditure. However, the State faces fiscal challenges, including high committed expenditure, rising public debt, fluctuating revenue receipts, and limited borrowing flexibility. Infrastructure development remains a key driver of economic progress, with improvements in roads, ports, inland waterways, telecommunication, housing, and energy supply, although constraints such as population density, land scarcity, and high costs continue to pose challenges. In the energy sector, hydropower remains the backbone, while solar, wind, and hybrid renewable projects are gradually expanding, though project delays, resource limitations, energy storage requirements, and grid modernisation need to be addressed. Overall, Kerala's policies focus on sustainable development, welfare priorities, and innovative strategies, aiming to ensure economic stability and inclusive growth for the State.

Assignments

1. Discuss the major deficit indicators used to assess Kerala's fiscal health.
2. What are the recent trends in Kerala's revenue and capital expenditure?
3. Describe the composition of Kerala's public debt in 2023 – 24.
4. Describe the current status and constraints of Kerala's energy sector.
5. Analyse the fiscal challenges faced by the Kerala government.
6. Examine Kerala's infrastructure development problems across different sectors.
7. Evaluate the growth and constraints in the renewable and non-renewable energy sectors of Kerala.

Reference

1. Government of Kerala. (2023). *Economic Review 2023.* State Planning Board, Thiruvananthapuram.
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Suggested Reading

1. Prakash, B. A. (Ed.). (2004). *Kerala's Economic Development: Performance and Problems in the Post-Liberalisation Period*. Sage Publications.
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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 2

Human Development Challenges

Learning Outcomes

After completing this unit, the learner will be able to:

- comprehend the major human development challenges faced by Kerala
- explain the role and objectives of start-up mission and knowledge economy mission
- evaluate the concept of brain gain and brain drain

Background

Kerala is widely recognised for its remarkable progress in human development, with achievements in literacy, health care, and social justice setting inspiring examples for the rest of the country. Building on these strengths, the state is now focusing on creating more opportunities for its people, especially the younger generation. Innovative programmes such as the Kerala Start-Up Mission and the Knowledge Economy Mission are helping to nurture talent, encourage entrepreneurship, and open new paths of employment in modern and knowledge-based sectors. These efforts highlight Kerala's vision of becoming a vibrant, innovation-driven economy where human potential is fully realised.

Migration too has been a unique strength in Kerala's growth story. The contributions of the Malayali diaspora through remittances have supported families, communities, and the state's development. At the same time, the trend of reverse migration brings skilled and experienced people back home, enriching the local economy with fresh ideas and expertise. Together with a strong democratic culture, reflected in the active participation of citizens and tools like NOTA, Kerala continues to strengthen its human development journey with positivity, inclusiveness, and forward-looking policies. However, in recent times, the state faces challenges that threaten the positive growth of human development. In the following sections, we will try to identify and discuss these factors.

Keywords

Population Ageing, Unemployment, KSUM, KKEM, Brain Gain, Brain Drain, NOTA

Discussion

4.2.1 Human Development Challenges

- Kerala is widely recognised for its high level of human development compared to other Indian states

Kerala is widely recognised for its high level of human development compared to other Indian states. Human development refers to improvements in people's well-being, including health, education, income, and overall quality of life. Kerala stands out because of its high literacy rate, better health indicators, progressive social development policies, and notable achievements in gender development. However, in recent times, several challenging factors have emerged that pose threats to Kerala's human development achievements. Some of the important challenges are discussed below.

4.2.1.1 Educated Unemployment

The Periodic Labour Force Survey (PLFS) 2023–24 reveals that Kerala's youth unemployment rate in the 15–29 age group stands at a striking 29.9%, the highest among Indian states. Within this group, female unemployment is high at 47.1%, compared to a much lower 19.3% among males. The India Employment Report 2024 further highlights that 31.28% of educated males in Kerala are unemployed, far above the national average. This reflects an unemployment crisis faced by Kerala.

- Female unemployment is high at 47.1%, compared to males

Several factors contribute to this situation. The state's education system emphasises degrees over vocational and technical training, leaving many graduates without job-ready skills. While the service sector dominates, it cannot absorb the rapidly growing number of educated youth, and manufacturing and industrial growth remain limited. Additionally, many young people prefer to remain unemployed rather than accept jobs with wages below their qualifications. To address these challenges, the Kerala government has launched initiatives such as the Kerala Knowledge Economy Mission (KKEM) to promote knowledge-based jobs, the Kerala Startup Mission (KSUM) to encourage entrepreneurship, and Mega Job Fairs

(Niyukthi) to directly connect employers with job seekers.

4.2.1.2 Demographic Transition and Population Ageing

- Old-age dependency ratio is also rising much faster in Kerala

Kerala is witnessing a rapid demographic transition, with one of the highest proportions of elderly in India. According to the *Elderly in India Report (2021)*, the state's elderly population rose from 10.5% in 2001 to 16.5% in 2021, and is projected to reach 20.9% by 2031. The old-age dependency ratio is also rising much faster in Kerala, from 16.5% in 2001 to a projected 34.3% in 2031, compared to India's 20.1%. Female dependency is consistently higher due to women's longer life expectancy. Work participation among Kerala's elderly remains low at 26.1% (against the national average of 34.4%), though people aged 80+ show slightly better engagement than the all-India average.

- Ageing is both a social issue and an economic challenge for Kerala's economy

The state faces several challenges in managing its ageing population. The early retirement age of 56 years, combined with a life expectancy of 72 years, leaves many government employees out of formal work for a long period. While they are covered by pensions, a large share of elderly from the unorganised sector- such as agricultural labourers, daily wage earners, and housewives-struggle without adequate financial security. Rising health needs, including the burden of non-communicable diseases, also increase healthcare expenses, making ageing not only a social issue but an economic challenge as well.

- Kerala has introduced social security measures to protect and support the elderly

To tackle these issues, Kerala has introduced social security and welfare measures. The State Old Age Policy (2013) stresses the importance of making the elderly productive members of society. Schemes such as Vayomithram (mobile medical clinics), Vayoamrutham (medical care in old age homes), Vayomadhuram (free glucometers for BPL diabetic elderly), and Mandahasam (free dentures) directly address health needs. On the financial side, Kerala has extended pension coverage to over 76% of the elderly population (RBI Report 2022–23), with millions benefiting from the Indira Gandhi National Old Age Pension, Agricultural Labour Pension, Welfare Fund Board Pension, and service pensions. These measures reflect Kerala's effort to build an age-friendly ecosystem while preparing for the challenges of a rapidly ageing society.

4.2.1.3 Gender and Social Inequalities

As per the Kerala State Planning Board, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, Kerala exhibits a 'Gender Paradox,' where despite a favourable sex ratio of 1,084 women per 1,000 men (Census 2011) and high female literacy, women face challenges in economic, political, and social spheres. Female workforce participation for those aged 15 and above was 25.4 percent in 2018–19 compared to 67.7 percent for men, constrained by social restrictions, unpaid care work, and mismatch between jobs and qualifications, while political representation remains minimal, with women MLAs never exceeding 10 percent historically, and apex decision-making bodies largely male-dominated. Women dominate unpaid domestic work (82.1 percent rural, 79.2 percent urban), and gender-based violence is widespread, including domestic abuse, dowry-related violence, cyber harassment, and workplace harassment, with reports rising during COVID-19 lockdowns (Mitra 181; KILA). Health disparities persist, with women experiencing higher obesity (38.1 percent), high waist-hip ratios (70.7 percent), diabetes (24.8 percent), hypertension (30.9 percent), mental health stress, and reproductive health challenges, including high female sterilisation (46.6 percent) versus negligible male sterilisation (0.1 percent) as per NFHS 2019-20.

- Despite high female literacy, women in Kerala continue to face challenges in economic, political, and social spheres

Marginalised women, including SC/ST communities, face landlessness, low workforce participation (39.66 percent women vs 60.34 percent men), and high dropout rates, while women in fishing communities are vulnerable to climate change, limited resources, and men's alcoholism. The transgender population, despite Kerala's 2015 Transgender Policy, continues to encounter discrimination, violence, and social stigma, with 41 percent reporting violence and 19 percent attempting suicide, highlighting urgent needs for improved livelihood, employment, education, housing, and gender-sensitive healthcare services. Traditional norms still affect women's access to resources, decision making power and safety.

- Traditional norms still affect women's access to resources, decision making power and safety

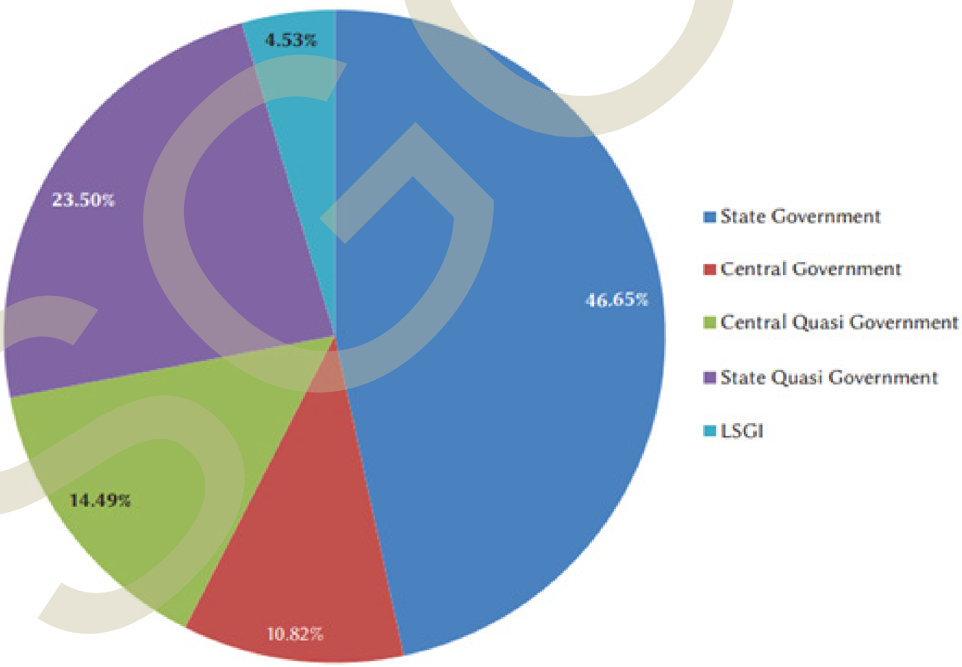
4.2.2 Employment

Kerala's employment landscape reflects both significant progress and ongoing challenges. The State has made strides in expanding its workforce, promoting formal employment, and maintaining relatively high wages and job quality. Despite these achievements, Kerala faces critical issues such as high youth unemployment-particularly among the educated-and a mismatch between workers' qualifications and available jobs.

4.2.2.1 Employment in Organised Sector

As per the Economic Review 2024, organised sector employment in Kerala has shown only marginal growth over the past decade, increasing from 11.3 lakhs in 2014 to 12.6 lakhs in 2024. This reflects the stagnant nature of job creation in the formal sector within the State. In 2024, out of the total organised sector employment, 44.4 per cent (5.6 lakhs) were in the public sector, while 55.5 per cent (7 lakhs) were in the private sector. While private sector employment has witnessed a gradual increase, especially after 2021, public sector employment has remained largely stagnant since 2016. Within the public sector, the distribution of employment in 2023-24 shows in following pie charts**:**

Figure 7.2.5 Distribution of employment in various branches in public sector in 2024



Source: Directorate of Employment, 2024

In 2024, district-wise data on organised sector employment in Kerala reveals that Ernakulam recorded the highest employment with 2.7 lakh workers, accounting for 21.3 per cent of the State's total, while Wayanad had the lowest with just 35,400 workers, comprising 2.8 per cent. Sectorally, the service sector continues to dominate employment within the organised sector, while the share of agriculture has been steadily declining. However, the education and manufacturing sectors have shown a rising trend in employment share, reflecting a slow diversification. Despite these developments, job growth in Kerala's organised sector remains slow and limited. The sector remains heavily urban focused and concentrated in services, with persistent gender disparities. Moreover, there is an increasing reliance on private sector-led job creation, particularly in the period after 2021.

- Service sector continues to dominate employment within the organised sector

4.2.2.2 Employment in Unorganised Sector

The unorganised sector plays a crucial role in the Indian economy, especially in terms of employment generation and its contribution to the Gross Domestic Product (GDP), savings and capital formation. It accounts for more than 90 per cent of the total workforce and nearly 50 per cent of the GDP. In both India and Kerala, a large portion of the socially and economically weaker sections of society are engaged in unorganised economic activities. According to the 68th round of the NSSO Employment and Unemployment Survey (based on the Usual Principal and Subsidiary Status approach), in Kerala, 37.7 per cent of total workers are self-employed, 22.5 per cent are regular wage or salaried employees and 39.8 per cent are casual labourers.

- A large proportion of the weaker sections of society are engaged in unorganised economic activities

Workers in the unorganised sector generally face poor job security, limited or no access to social protection, no paid leave and fewer chances of upward mobility. They are often subjected to unfair or illegal labour practices, low wages and poor working conditions when compared to their counterparts in the formal sector. In Kerala, the Directorate of Employment functions as the nodal agency responsible for addressing unfair practices in the unorganised sector. In recent years, the Government of Kerala has launched several initiatives to provide social security and improve the welfare of workers in this sector. These steps are intended to reduce exploitation and enhance the overall quality of employment for unorganised workers.

- Directorate of Employment functions as the nodal agency in the unorganised sector

4.2.2.3 Unemployment In Kerala

Kerala continues to face a high unemployment rate compared to the national average. According to the *Periodic Labour Force Survey (PLFS) 2023 – 24*, the overall unemployment rate in Kerala (for persons aged 15 years and above, based on usual status – principal and subsidiary status) is 7.2%, which is more than double the all-India average of 3.2%.

Table 4.2.1: Unemployment Rate in India and Kerala

Category	India (%)	Kerala (%)
Overall	3.2	7.2
Male (Rural)	2.7	4.6
Female (Rural)	2.1	12.1
Male (Urban)	4.4	4.2
Female (Urban)	7.1	10.9

Source: Economic Review 2024

- Higher unemployment among women, both in rural and urban areas

These figures clearly reflect higher unemployment among women, both in rural and urban areas. Despite Kerala's high levels of education and human development, the rate of job creation has not kept pace with the growing educated population, especially women and youth. This mismatch between education and employment opportunities is often described as the 'Kerala paradox' where a highly educated work force struggles to find suitable employment, particularly in the organised and skilled sectors.

4.2.1.4 Skill Development and Unemployment in Kerala

Skill development is very important for the growth of the economy. It helps people get better jobs and improves their productivity. Kerala has a well-educated population and many young people; so the State gives high importance to skill training. Kerala's economy is changing from traditional sectors like agriculture to modern areas such as IT, tourism, health care and renewable energy. These new sectors need a different set of skills. There is also a high demand for skilled workers in India and other countries. This gives Kerala a good chance to train its youth and send skilled workers across the world. But still, Kerala faces a big problem. Even though many people are educated, they are not getting jobs. This is called the educated unemployment problem. According to Economic review 2024 one out of four postgraduates is unemployed. One out of six people with technical degrees or vocational training does not have a job. This means there is a mismatch between the skills people learn and the jobs available. To solve this, Kerala is focusing on providing job-oriented skills so that educated youth can find suitable jobs and use their talents effectively.

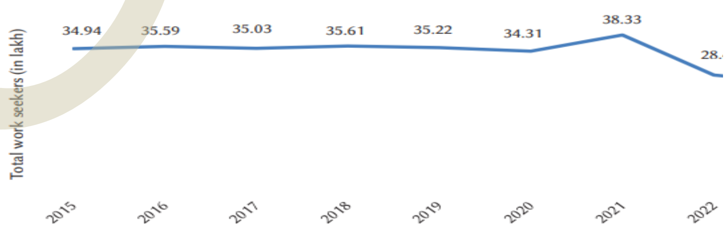
- Mismatch between the skills people learn and the jobs available in Kerala

4.2.1.5 Employment Exchanges and Job Seekers in Kerala

- Employment exchanges in Kerala maintain live registers of people looking for jobs

Employment exchanges in Kerala maintain live registers of people looking for jobs. In 2016, the total number of registered job seekers was 35.6 lakhs. This number gradually declined to 26.33 lakhs by the end of 2023 and further to 25.9 lakhs by July 2024. As of July 31, 2024, Thiruvananthapuram district has the highest number of job seekers in Kerala, with a total of 4,18,671 individuals. Out of this, 2,65,938 are women and 1,52,733 are men, indicating a higher number of female job seekers. Kollam district comes next in the list. On the other hand, Wayanad district has the lowest number of job seekers, with only 68,529 individuals. This shows a wide variation in unemployment levels across different districts in Kerala.

Figure 7.2.7 Work Seekers in Kerala, (number in lakh)



Source: Directorate of Employment, Gok,2024

4.2.1.6 Employment Support and Welfare Schemes in Kerala

To address unemployment, bridge skill gaps and support vulnerable sections of society, the Government of Kerala, through the National Employment Service and other agencies, implements several targeted employment schemes. The following are the key initiatives:

- **For Persons with Disabilities:**
    - **Kaivalya Scheme:** An employment rehabilitation programme providing vocational guidance, capacity building and self-employment loans to promote social and economic inclusion.
- **For Senior Citizens:**
    - **Navajeevan Scheme:** Provides financial support and loans for self-employment to unemployed senior citizens (aged 50-65) registered with Employment Exchanges.
- **For Marginalised Communities:**
    - **Samanwaya Scheme:** A career and employability programme for Scheduled Caste (SC) and Scheduled Tribe (ST) youth, offering coaching for competitive exams, skill development and career guidance.

> • To address unemployment the government implements several targeted employment schemes

- **General Initiatives:**
    - **Model Career Centre (MCC):** A one stop hub for career guidance, placements and job drives that acts as a bridge between job seekers and employers.
    - **Niyukthi Mega Job Fair:** State level initiative to provide a direct platform for job seekers and potential employers to connect.
    - **Unemployment Allowance Scheme:** Provides financial assistance to educated, unemployed youth who have been on the live register for over three years.

4.2.3 Kerala's Strategic Response to Educated Unemployment: The Two Pillar Approach

The 'Kerala Paradox,' where a highly educated population coexists with high unemployment rates, is a significant challenge for the state. In response, the Government of Kerala has adopted a strategic approach to transition into a knowledge based economy. This strategy is primarily driven by two complementary initiatives: the Kerala Start up Mission (KSUM) and the Kerala Knowledge Economy Mission (KKEM).

4.2.3.1 Kerala Start Up Mission

The Kerala Start-Up Mission (KSUM) is the nodal agency of the Government of Kerala for promoting entrepreneurship and innovation in the state. It was established to create a vibrant start up ecosystem and support young entrepreneurs in converting their innovative ideas into scalable businesses.

- A highly educated population coexists with high unemployment

Objectives:

- Promote entrepreneurship and innovation among youth.
- Provide necessary infrastructure, funding and mentoring for startups.
- Develop Kerala as a hub for technology-based innovation.
- Facilitate collaboration between academia, industry and government to support start up growth.

Key Initiatives and Features:

1. **Incubation Centres:**KSUM has set up over 40 incubators across the state to support start ups with office space, technical support and business mentoring.
2. **Funding Support:**
    - Offers seed funding, innovation grants and scal -up support through various schemes.
    - Provides financial aid to promoting start ups at different stages of growth.
3. **Skill Development:** Conducts workshops, boot camps and training programmes to develop entrepreneurial and technical skills among youth.
4. **Youth Entrepreneurship Development Programmes:** Supports start up clubs in schools, colleges and universities to nurture the spirit of innovation from an early age.
5. **Public Private Partnerships:** Collaborates with private investors, corporate houses and global innovation networks to ensure funding and market access.
6. **Start Up Knowledge Centres (Innovation and Entrepreneurship Development Centres - IEDCs):**

- Nodal agency of the Government of Kerala for promoting entrepreneurship and innovation in the state

These centres in colleges encourage student led innovations and support the transformation of ideas into products.

Achievements of Kerala Start Up Mission

- Kerala became the first state in India to have a state-wide start-up policy.
- KSUM has supported thousands of start-ups across sectors like IT, health care, education, agriculture and clean energy.
- The state's start up ecosystem is ranked among the best in the country for its support infrastructure and ease of doing business.
- Kerala is recognised as a 'Top Performer' in the national Start Up India ranking.

- Startup mission transforming the entrepreneurial landscape of the state

The Kerala Start Up Mission has played a vital role in transforming the entrepreneurial landscape of the state. By providing holistic support-from ideation to scaling up-it helps build a self-reliant and innovation driven economy that creates jobs and promotes sustainable development.

4.2.3.2 Kerala Knowledge Economy Mission (KKEM)

- KKEM is addressing the issue of unemployment among the educated youth of the state

The Government of Kerala launched the Kerala Knowledge Economy Mission (KKEM) with the goal of addressing the issue of unemployment among the educated youth of the state. The mission aims to create meaningful and gainful employment opportunities by linking skilled individuals with job demands at both local and global levels. The Kerala Development and Innovation Strategic Council (K-DISC) is the nodal agency responsible for implementing the mission. Kerala faces a paradox of having a highly educated population alongside high levels of unemployment, especially among youth with degrees. The mismatch between education and job market needs prompted the state to establish KKEM. The mission was launched to bridge this gap by generating demand-based jobs and equipping job seekers with industry-relevant skills.

Key Functions and Initiatives:

- **Skill Development and Training:** KKEM focuses on upskilling and reskilling the educated youth to meet the demands of a rapidly evolving, tech-driven job market. This is done through partnerships with global online learning platforms like Coursera, which offer specialised courses in areas like AI, cloud computing, cybersecurity and data analytics.

- Operates a digital platform to link job seekers, employers and skill providers

- **Digital Workforce Management System (DWMS):** This is a key digital platform that connects all stakeholders-job seekers, training providers and employers. The system helps in skill matching, resume building and conducting mock interviews to prepare job aspirants for the work force.
- **Promoting Knowledge Industries:** Beyond just providing skills for external jobs, the mission seeks to promote knowledge-based industries within the state. This involves creating an environment and providing the necessary support for companies to set up their operations in Kerala and hire from the local talent pool.
- **Financial Support:** The state has allocated a substantial 'Knowledge Economy Fund' to provide the necessary financial backing for the mission's objectives.

Table 4.1.2: Achievements of the Kerala Knowledge Economy Mission

Sl. No	Components	Achievements (up to Sep. 2024)
1	Employers Registered	6,606
2	Job Seekers registered	17,42,555
3	Vacancies Mobilised	13,25,084
a	Domestic	10,57,855
b	International (Onsite and Online)	11,427
c	International (through NORKA)	784
d	National	2,55,018
4	Vacancies Freelancing	3,279
5	Vacancies brought by Foundit	4,47,287
6	Vacancies Third Party (Monster...etc)	6,63,085
7	Applied (Distinct)	3,02,388

Sl. No	Components	Achievements (up to Sep. 2024)
8	Interviewed (Distinct)	39,036
9	Selected / shortlisted (Distinct)	34,763
10	Employment provided	1,20,586
11	Direct (Distinct)	45,370 (42,413)
12	Third Party (Employment Exchange, KASE, ASAP, Kudumbashree)	75,216
13	Job Seekers - Skilling provided through DWMS	18,785
14	Employment Exchange	21,107
15	Kudumbashree	42,410
16	KASE	4,865
17	ASAP	1,847
18	NORKA	3,274
19	ODPEC	1,713

Souce :Kerala Economuc Review 2024

- KKEM stands to tackle the state's educated unemployment challenge

The Kerala Knowledge Economy Mission stands as a comprehensive and inclusive initiative to tackle the state's unemployment challenge among the educated. By combining digital platforms, skill training and job placement mechanisms, KKEM is actively contributing to Kerala's goal of becoming a knowledge driven economy with global employment connectivity.

The Kerala Startup Mission and the Knowledge Economy Mission are not isolated efforts; they are complementary. KSUM creates the ecosystem for innovative business creation, while KKEM focuses on equipping the broader work force with the skills needed to participate in the new economy. This synergy is central to the state's strategy for addressing its human development challenges, particularly the issue of educated unemployment. By fostering a knowledge-based economy, the government hopes to create a sustainable and inclusive growth model that retains its talent and reduces its dependence on remittances.

4.2.4 Migration

Kerala has a long history of international migration, which continues to shape its economy and society. According to the Kerala Migration Survey (KMS) 2023, the estimated number of emigrants from Kerala stands at 2.2 million. This marks a slight increase from 2.1 million in 2018 and reflects a halt in the earlier declining trend of emigration. A key reason for this stabilisation is the sharp rise in student migration. The number of student emigrants from Kerala rose from about 1.3 lakh in 2018 to 2.5 lakh in 2023, showing that more young people are going abroad for higher education and skill development.

- The sharp rise in student migration for higher education and skill development

In terms of regional distribution, the northern districts of Kerala accounted for the largest share of emigrants (41.8%), followed by the central (33.1%) and southern (25%) regions. Tirur taluk in Malappuram continues to top the list as the taluk with the highest number of emigrants. In contrast, Devikulam in Idukki has the lowest number of emigrants.

- The northern districts of Kerala accounted for the largest share of emigrants

The religious composition of emigrants reveals that Muslims make up the largest group (41.9%), followed by Hindus (35.2%) and Christians (22.3%). These shares are not proportional to their population shares in Kerala, indicating higher migration tendencies among minority communities. Migration is still male dominated, with 80.9% of emigrants being male. However, the share of female emigrants has increased to 19.1% and the gender gap is narrower in districts like Kottayam.

- Higher migration tendencies among minority communities in Kerala

Regarding educational background, a large part of male emigrants had only primary or secondary education, while 71.5% of female emigrants had completed a degree. This shows that female emigrants are more educated on an average than their male counterparts. In terms of economic activity, 84.1% of male emigrants were part of the labour force, while female emigrants had a more diverse profile-46.7% were working, 26.6% were students and 21.5% were not in the labour force. Common occupations for male emigrants included sales, driving and construction, while over half of female emigrants worked as nurses.

When it comes to destination countries, Gulf Cooperation Council (GCC) nations continued to be the most preferred destinations, especially the UAE, which alone accounted for 38.6% of all emigrants. However, a growing number of

- Shift in the migration pattern from labour migration to education- and skill-based migration

emigrants, especially students and women, are now heading to non-GCC countries like the United Kingdom, Canada, Australia and European nations. The share of emigrants going to non-GCC countries has nearly doubled from 10.8% in 2018 to 19.5% in 2023. This trend indicates a shift in the migration pattern from labour migration to education and skill-based migration.

4.2.4.1 Reverse Migration

- Between 2018 and 2023, there was a 38.3% rise in returnees, mainly due to the COVID-19 pandemic

Return migration has emerged as a significant feature of Kerala's migration experience. According to the Kerala Migration Survey (KMS) 2023, the number of Return Emigrants has reached 1.79 million, marking the highest recorded increase in return migration. Between 2018 and 2023, there was a 38.3% rise in returnees, mainly due to the COVID-19 pandemic, which caused widespread job losses abroad. The data highlights that return migration is largely male dominated, with 88.5% of return emigrants being men. Most returnees had limited educational gains during migration, as around 32% had education only up to Class 10 both before and after their migration. A significant shift was seen in employment patterns -many who were employed in the private sector (43.4%) or as casual workers (26.2%) during their time abroad moved into self-employment (15%), retirement or informal activities after returning to Kerala.

- Return migration reflects both economic realities abroad and demographic and social transitions at home

The majority of return emigrants (about 86.4%) had migrated to Gulf countries (GCC), especially UAE and Saudi Arabia, where jobs are often temporary due to strict visa and citizenship policies. The reasons for return are varied, with the loss of employment being the most common (18.4%), followed by a desire to work in Kerala, low wages, illness, homesickness and retirement. Regionally, districts like Malappuram, Thrissur and Ernakulam saw the highest number of returnees, while Idukki and Wayanad recorded the lowest. A large share of returnees came back in the post-2015 period, indicating recent global shifts and pandemic related effects. Furthermore, changes in marital status were observed; over 54.9% were unmarried at the time of their first migration, but by 2023, 87.5% were married. Return migration, therefore, reflects both economic realities abroad and demographic and social transitions at home. It also highlights the need for targeted state policies to support the economic reintegration, employment and welfare of return migrants.

4.2.4.2 Challenges of Return Migration in Kerala

- The sudden increase in the number of returnees puts pressure on the local job market

Return migration, though inevitable, creates multiple social and economic challenges for Kerala. The sudden increase in the number of returnees, especially after COVID-19, puts pressure on the local job market. Many return migrants, especially those with low educational qualifications, struggle to find suitable employment within the state. Even highly skilled returnees often face underemployment or mismatch of skills, as the jobs they did abroad may not have local equivalents. This leads to dissatisfaction and economic insecurity.

A large share of returnees is in the older age groups or retired and some return due to illness or physical inability to work. This increases the demand for healthcare, social security and pension support, especially in rural areas. Moreover, the majority of returnees are men who had stayed abroad for long periods and their reintegration into family and society is not always smooth. In many cases, psychological stress, identity issues and social isolation become concerns.

- There is a notable absence of effective support systems and policies to facilitate reintegration

Another major challenge is the lack of support systems or policies for reintegration. The absence of government schemes for employment support, skill recognition or financial planning makes it difficult for return migrants to start businesses or engage in productive activities. Student returnees also face uncertainty, as only a small percentage find jobs in the public sector and many remain unemployed. Lastly, regional imbalances in return migration, with districts like Malappuram, Kozhikode and Thrissur receiving large numbers of returnees, place a burden on local infrastructure and resources. In contrast, other districts may not have return focussed policies due to low return migration.

4.2.5 Brain Drain and Brain Gain

- Labour and capital move between countries for better wages and productivity

Brain Drain refers to the emigration of highly skilled and educated individuals (e.g. doctors, engineers, scientists) from one country to another. This movement typically occurs from developing to more developed nations, driven by the pursuit of better wages, career opportunities and a higher standard of living. Brain Gain refers to the process where a country benefits from international migration. This can happen in two ways:

1. Through the immigration of skilled workers from other

countries.

2. When emigrants return home with enhanced knowledge, advanced skills and valuable international exposure, contributing positively to their home economy.

Kerala provides a unique case study for the concepts of Brain Drain and Brain Gain. While its high human development indicators: often compared to those of developed nations, should ideally lead to a thriving economy, the state has historically grappled with high rates of educated unemployment, making migration a central feature of its socio-economic fabric.

4.2.5.1 The Historical Context: From Brain Drain to a Remittance Economy

- Kerala's experience with international migration began in earnest with the 'Gulf Boom' of the 1970s. While initial migration to the Gulf Cooperation Council (GCC) countries was largely for semi-skilled and low skilled jobs, this flow of labour had a profound and transformative effect on the state's economy.

- **Brain Drain as a Loss Leader**: In the early stages, the migration of a skilled and educated work force was a classic case of Brain Drain. The state invested heavily in education (a core part of the 'Kerala Model of Development'), but many of these educated individuals emigrated, resulting in a loss of human capital and a missed opportunity for local growth.

> • Kerala experienced Brain Drain as skilled individuals migrated abroad

- **The Remittance Fuelled Economy (Brain Gain):** The most significant benefit of this migration, however, was the massive inflow of remittances. These funds became a cornerstone of the state's economy, contributing over 23% of its domestic product in 2023, far exceeding the state's own revenue receipts. These remittances have fuelled consumption, boosted the service sector (housing, trade and transport) and increased the overall *per capita* income of the state.

4.2.5.2 The Shifting Nature of Migration: A New Form of Brain Drain

While the traditional Gulf migration continues, Kerala is now witnessing a significant shift in its migration patterns, which raises new concerns about Brain Drain.

- **From Gulf to Western Countries:** There is a growing trend of highly educated Keralites, including women and students, migrating to developed Western countries like Canada, the U. K, the U. S. A. and Australia. This new wave of migration is often motivated by the search for permanent residency, better professional opportunities and a higher standard of living, rather than just shortterm employment.

- **Loss of Future Human Capital:** A particularly alarming trend is the "student exodus." Many students are going abroad for higher education with a clear intention to settle, leading to a permanent out flow of the state's 'cream' of intellectual talent. This represents a significant demerit of Brain Drain as the state loses its future work force and the return on its investment in public education.

- The brain drains, weakening local economic growth

- **Vicious Economic Cycle:** The 'paradox of educated unemployment' in Kerala can contribute to a vicious cycle. The lack of high paying jobs and a perception of limited opportunities compel educated youth to leave, which in turn reduces the available skilled labour pool for new industries, slowing down local economic diversification.

4.2.5.3 Brain Gain Initiatives and their Potential

To counteract the negative effects of Brain Drain, the Kerala government has launched strategic initiatives to encourage 'Brain Gain' and leverage its vast diaspora.

- **Kerala Knowledge Economy Mission (KKEM):** This is a key government initiative aimed at reskilling the educated work force and connecting them with global job opportunities. By focusing on 'work from home' and 'work near home' models, KKEM seeks to facilitate a form of 'Brain Gain' where Keralites can earn global wages while living and contributing to the local economy.

- Fosters entrepreneurship to transform job seekers into job creators

- **Kerala Startup Mission (KSUM):** KSUM indirectly promotes Brain Gain by creating an entrepreneurial ecosystem. It aims to transform job seekers into job creators, making the state an attractive destination for return migrants with entrepreneurial ideas and global experience.

- **Targeted Brain Gain Programs:** The state has specific initiatives like the Brain Gain programme, which invites Non-Resident Keralite (NRK) scholars, scientists and experts to collaborate with universities and research institutions in Kerala. This facilitates the transfer of knowledge and advanced skills without the need for permanent return.

4.2.5.4 The Demographic and Social Implications

- **Ageing Population:** The continuous outward migration of the working age population is accelerating the state's demographic transition. Kerala is already experiencing a rapid increase in its elderly population, a classic demographic challenge of Brain Drain.

- **Replacement Migration:** A direct consequence of this outflow is the significant inflow of internal migrants from other Indian states to fill the void in low skilled and semi-skilled jobs. This 'replacement migration' highlights the complex demographic shifts at play.

- **Unequal Benefits of Migration:** While migration has raised living standards for many, the benefits are not uniform. The recent shift towards migration to Western countries is often seen as a status symbol, which can be afforded by middle and upper class families, creating new forms of social and economic inequality.

- Brain drain creating new inequalities

In the case of Kerala, the concepts of Brain Drain and Brain Gain are intertwined. While Brain Drain has historically been a significant part of the state's socio-economic landscape, leading to a massive inflow of remittances that have powered consumption and a robust service sector, the increasing outflow of young, educated individuals to Western countries poses a new and critical challenge. The state's future economic model will depend on its ability to effectively implement its Brain Gain strategies, especially through initiatives like the KKEM and KSUM, to not only retain its talent but also to leverage its vast global diaspora to drive a sustainable, knowledge based economy. The success of this transition will determine whether Kerala can truly overcome its paradox of high human development and high unemployment.

4.2.6 NOTA (None of the Above)

NOTA indicates that they do not support any of the contesting candidates

NOTA, which stands for 'None of the Above,' is an option provided to voters in India to indicate that they do not support any of the contesting candidates. It was officially introduced in India on 27th September 2013, following a Supreme Court judgement in the *People's Union for Civil Liberties vs. Union of India* case. The Election Commission of India included the NOTA option in Electronic Voting Machines (EVMs) starting from the 2013 Assembly elections in five states.

Aim of NOTA

The primary objective of introducing NOTA is to empower voters with the right to reject. It allows them to express dissatisfaction with the available candidates without abstaining from voting. NOTA aims to:

- Promote voter participation by offering a formal way to reject all candidates.
- Encourage political parties to nominate better, more accountable and clean candidates.
- Strengthen democracy by making electoral processes more transparent and responsive to public expectations.
- Express discontent with governance, corruption or poor attention to developmental issues like education, health and employment.

- NOTA is to empower voters with the right to reject

While NOTA does not lead to re-election even if it receives the highest number of votes, it plays an important symbolic and democratic role in a representative democracy like India. It allows voters to express dissatisfaction with all contesting candidates in a peaceful and legitimate way, rather than boycotting elections or staying silent. In the context of human development challenges: such as poverty, unemployment, lack of access to quality education and health care, gender inequality and social exclusion, NOTA becomes a powerful tool. When voters feel that none of the candidates are seriously addressing these fundamental issues or representing their real concerns, choosing NOTA enables them to send a clear message to political parties: *'We need better candidates and policies that focus on real development.'*

- NOTA allows voters to express dissatisfaction with all contesting candidates in a peaceful and legitimate way

For example, if a region has consistently poor infrastructure, weak public health systems or high dropout rates in schools and none of the candidates offer credible solutions, the people can use NOTA to show their displeasure with the political status quo. This silent protest puts moral pressure on parties to field more accountable, clean and development focused candidates in future elections. Thus, although NOTA does not cancel the election result, it serves as an indicator of democratic maturity, encouraging greater accountability, citizen engagement and ultimately, a stronger focus on solving the human development challenges that matter most to the people.

- NOTA serves as an indicator of democratic maturity

Summarised Overview

Kerala's employment scenario reflects both commendable progress and persistent challenges. The State boasts a well educated workforce and relatively high wage levels, yet it continues to struggle with high unemployment rates, especially among educated youth and women. As per the PLFS 2023–24, Kerala's unemployment rate stands at 7.2%, more than double the national average. The organised sector shows stagnant job growth, while the unorganised sector remains dominant, employing a large share of socially and economically weaker sections, often with minimal job security and limited benefits.

To address these challenges, Kerala has undertaken several innovative initiatives to promote inclusive economic growth. The Kerala Start-Up Mission (KSUM) serves as the government's flag ship programme to nurture entrepreneurship and innovation. By providing incubation centres, funding support, skill development opportunities and fostering public-private partnerships, KSUM has helped transform Kerala into one of the leading start-up ecosystems in India.

In addition, the Kerala Knowledge Economy Mission (KKEM) directly targets educated youth unemployment by addressing the mismatch between education and job requirements. It promotes demand-based employment through training, digital platforms and collaboration with academic institutions and industries, especially focusing on marginalised groups.

The State also faces significant challenges related to reverse migration and the complex dynamics of brain drain and brain gain. While the emigration of skilled professionals can lead to a loss of human capital and demographic strain (brain drain), return migration and remittances (brain gain) offer potential for knowledge transfer and economic development.

Finally, the introduction of the NOTA (None of the Above) option in elections empowers voters to reject all candidates when none are found suitable. Introduced in 2013, NOTA plays an important symbolic role in strengthening democracy. It promotes transparency, accountability and compels political parties to field more competent candidates focussed on real development issues like employment, education and health care.

Assignments

1. Describe the employment profile of Kerala in recent years.
2. Describe the major employment support schemes implemented by the Kerala government.
3. Explain the objectives and key initiatives of the Kerala Start-Up Mission.
4. Discuss the role and achievements of the Kerala Start-Up Mission in promoting entrepreneurship.
5. What are the main features of the Kerala Knowledge Economy Mission (KKEM)? How does it address educated youth unemployment?
6. Analyse the significance of brain drain and brain gain in the context of Kerala's development.
7. How can NOTA influence political accountability and candidate selection in elections?

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Suggested Reading

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 3 Social Challenges and Inclusive Development Initiatives

Learning Outcomes

After completing this unit, the learner will be able to:

- identify and explain the major social challenges faced by Kerala
- get an insight into the status and challenges of marginalised sections in the state
- analyse gender issues and the efforts taken to promote gender equality in Kerala
- discuss the key features of gender-neutral schemes implemented by the Kerala government

Background

Kerala has long been recognised for its achievements in social development, including high literacy rates, improved health indicators, and relatively low levels of poverty compared to other Indian states. The state's success is often attributed to its history of social reform movements, progressive education policies, and community-based health initiatives. Women, children, and marginalised communities have particularly benefited from these efforts, making Kerala a model for social development in low- and middle-income regions. However, Kerala continues to face social challenges. Gender disparities persist, particularly in areas such as workforce participation, decision-making roles, and vulnerability to violence. While female literacy and health indicators are high, marginalised groups, despite improvements in living conditions, often encounter constraints in accessing education, health care, and secure livelihoods. Kerala's health sector, though strong in many respects, also faces challenges such as a rising prevalence of chronic diseases, mental health concerns, and inequities in access to health care, particularly for women and disadvantaged communities. Overall, Kerala stands out as a leader in social development in India, but addressing persistent social challenges is crucial for achieving inclusive growth. Emerging issues such as urbanisation, migration, and environmental changes have introduced new social pressures, affecting both rural and urban populations. In this unit, we will discuss the social challenges faced by Kerala.

Keywords

Marginalised Communities, Gender, Kudumbasree, Poverty Mission

Discussion

4.3.1 Social Challenges in Kerala

Kerala has long been recognised for its remarkable achievements in human development, including high literacy rates, improved health indicators, and progressive social policies. The state has successfully promoted social welfare, enhanced quality of life, and built a strong foundation for inclusive growth, making it a model for development in India. However, despite these achievements, Kerala now faces several emerging challenges that threaten its social, economic, and environmental systems. Here, we discuss some of the key social challenges faced by the state.

- Student emigrants from Kerala rose from about 1.3 lakh in 2018 to 2.5 lakh in 2023

1. **Rising Student Migration:** According to the Kerala Migration Survey (KMS) 2023, the number of student emigrants from Kerala rose from about 1.3 lakh in 2018 to 2.5 lakh in 2023, indicating that student migration, both internal (within India) and international, has effectively doubled. Migration is particularly high among the youth population of Kottayam and Pathanamthitta districts. The main reasons for this trend include the pursuit of better education and career opportunities abroad, the perception of superior infrastructure and urban amenities elsewhere, and aspirational or societal pressures. This trend has significant social implications. Many students leave their homes for studies, resulting in vacant houses and elderly parents living alone. Local communities, including churches, have observed reduced attendance and participation, affecting the social rhythm and cohesion of these communities.

The economic consequences of student migration are also substantial. Brain drains and deskilling occur as many highly educated students abroad end up in low-skill jobs, underutilising Kerala's human capital and leading to economic losses for the state. Families face financial burdens, spending lakhs per student for studies abroad, often selling ancestral houses or taking loans, which also affects the local housing market. While Kerala's remittance economy remains strong, significant money flows out of the state, benefiting foreign economies rather than local development. To address these challenges, the government is creating local job opportunities to retain youth, and the Chief Minister has proposed a special scheme through the Higher Education Council to encourage return migration. Experts suggest supporting elderly parents with innovative care schemes and strengthening local education-to-employment pathways to reduce aspirational out-migration and ensure that Kerala's skilled population contributes to the state's growth.

- Underutilising Kerala's human capital and leading to economic losses for the state

2. **Human–Wildlife Conflict:** Kerala, with its rich biodiversity and varied ecosystems, is facing escalating human–wildlife conflict due to the encroachment of human settlements into wildlife habitats, rapid urbanisation, agricultural expansion, limited land resources, and a growing population. The consequences of these conflicts include crop damage, livestock losses, human fatalities, and retaliatory killings of wildlife. According to a Kerala Forest Department study conducted from April 1 to September 30, 2024, there were 2,771 incidents of human–wildlife conflict in the state, resulting in 22 fatalities. These included 14 deaths from snake bites, 4 from elephant attacks, 3 from wild boars, and 1 from a porcupine-related accident. Most elephant-related incidents occurred in districts such as Wayanad, Idukki, Palakkad, Thrissur, Pathanamthitta, Kannur, and Malappuram. Indigenous communities, particularly in Wayanad and Idukki, are especially vulnerable, with approximately 150,000 tribals at risk. Wildlife threats have also disrupted agriculture, dairy farming, and tourism, significantly affecting rural livelihoods and the local economy.

- Increasing human–wildlife conflict due to the encroachment of human settlements into wildlife habitats

In response to the rising conflicts, the Kerala government has implemented several measures to mitigate risks and protect both humans and wildlife. These include the installation of electric fences, AI-based animal monitoring systems, and

- Kerala government has implemented several measures to protect both humans and wildlife

helpdesks in over 200 panchayats. Local bodies have been authorised to hire licensed shooters to manage wild boars, and efforts are underway to implement land and species-specific Standard Operating Procedures (SOPs). These strategies aim to ensure community safety, protect livelihoods, and promote coexistence between humans and wildlife in Kerala.

- Kerala faces significant climate change challenges due to rising temperatures

3. **Climate Change Challenges in Kerala:** Kerala faces significant climate change challenges due to rising temperatures, erratic rainfall, sea level rise, and increased frequency of extreme weather events. Agriculture is highly vulnerable, with crops like rice, black pepper, cardamom, and coconut experiencing reduced yields due to heat stress, droughts, excessive rainfall, and pest infestations. Livestock productivity and health are also affected, as higher temperatures and heat stress reduce milk production, growth rates, and survival, while floods and droughts increase disease risks. Coastal ecosystems and fisheries are under threat from sea level rise, saline water intrusion, and marine heat waves, which reduce fish productivity and threaten the livelihoods of fishing communities.

- Water resources, forest and human health under the threat of climate change

Water resources are stressed due to decreasing rainfall in river basins, increased evapotranspiration, and over-extraction of groundwater, while floods and landslides exacerbate soil erosion and damage infrastructure. Forests and biodiversity face physiological stress from higher temperatures, longer droughts, and changing rainfall patterns, leading to shifts in forest types, loss of species, and increased forest fire risks. Human health and tourism are also impacted, as extreme heat, floods, and vector-borne diseases pose direct and indirect threats. Overall, the state's socio-economic systems, natural resources, and communities are increasingly vulnerable to climate change, requiring targeted adaptation and mitigation strategies.

- Waste management is critical in Kerala due to urbanisation and environmental concerns

4. **Waste Management Issues: Waste** management is critical in Kerala due to urbanisation, environmental concerns, and the need for regulatory compliance. As per the Government of Kerala, Kerala State Planning Board, Fourteenth Five-Year Plan (2022–2027), the state generates about 11,449 tonnes of solid waste per day (2021), nearly double the 6,506 tonnes per day estimated in 2006. Of this, urban areas produce 3,521 TPD while rural areas generate 7,928 TPD, and 2,981 TPD of waste remains untreated. The major challenges

include the lack of uniform data collection methods, limited capacity of urban local bodies (ULBs) in terms of manpower, finance, and land for waste processing, opposition to centralised waste-to-energy (W2E) plants due to high population density and land scarcity, and the management of other wastes such as tree cuttings, construction debris, e-waste, and non-recyclables.

- Government has undertaken initiatives to mitigate the effect of solid waste

To address these challenges, the government has undertaken several initiatives. The Kerala Sustainable Urban Development Project (KSUDP) aimed to convert existing dumping sites into composting facilities; however, implementation was delayed due to protests and environmental concerns. Under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM), partial SWM initiatives were implemented in Thiruvananthapuram and Kochi, though the outcomes were limited. Decentralised waste management approaches have also been promoted, including household-level composting through pipe, vermin, and bio-composting, as well as pit composting, ward-level aerobic composting based on the Thumbarmuzhi model, and mini composting plants in urban areas. The Haritha Keralam Mission has treated 45% of bio-waste at the source, with 1,339 Material Collection Facilities (MCFs) and 157 Resource Recovery Facilities (RRFs) operational. Additionally, the Kerala Solid Waste Management Project, supported by the World Bank, proposed W2E plants, which were delayed due to land acquisition challenges and the withdrawal of private partners. Finally, the Ministry of Housing and Urban Affairs has supported the development of decentralised waste management infrastructure across the state.

4.3.2 Status of Marginalised Communities

Marginalised communities are groups of people who, due to social, economic, cultural, or political disadvantages, are pushed to the margins of society and denied equal opportunities, rights, and access to resources. Here, we discuss the major issues faced by these vulnerable sections of society.

4.3.2.1 Women

As per the Kerala State Planning Board, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, Social Services Division, Kerala exhibits a ‘Gender Paradox,’ where despite a favorable sex ratio of 1,084 women per 1,000 men (Census 2011) and high female literacy, women face significant challenges in economic, political, and social spheres. Female workforce participation for those aged 15 and above was 25.4 percent in 2018–19 compared to 67.7 percent for men, constrained by social restrictions, unpaid care work, and a mismatch between jobs and qualifications. Political representation remains minimal, with women MLAs never exceeding 10 percent historically, and apex decision-making bodies largely male-dominated. Women dominate unpaid domestic work, with 82.1 percent in rural areas and 79.2 percent in urban areas. Gender-based violence is widespread, including domestic abuse, dowry-related violence, cyber harassment, and workplace harassment, with reports rising during the COVID-19 lockdowns (Mitra 181; KILA).

- Apex decision-making bodies largely male-dominate

Health disparities persist, with women experiencing higher obesity (38.1 percent), high waist-hip ratios (70.7 percent), diabetes (24.8 percent), hypertension (30.9 percent), mental health stress, and reproductive health challenges, including high female sterilisation (46.6 percent) versus negligible male sterilisation (0.1 percent) according to NFHS 2019–20. Marginalised women, including those from SC/ST communities, face landlessness, low workforce participation (39.66 percent women versus 60.34 percent men), and high dropout rates, while women in fishing communities are vulnerable to climate change, limited resources, and men's alcoholism. The transgender population, despite Kerala's 2015 Transgender Policy, continues to encounter discrimination, violence, and social stigma, with 41 percent reporting violence and 19 percent attempting suicide, highlighting the urgent need for improved livelihood, employment, education, housing, and gender-sensitive healthcare services.

- Female sterilisation is significantly higher compared to male sterilisation

4.3.2.2 Scheduled Caste

According to the *Kerala State Planning Board, 14th Five-Year Plan Report (2022)*, the Scheduled Caste (SC) population of Kerala is 30.39 lakh, forming 9.1% of the State's total population (Census of India 2011). The Constitution recognises 53 SC communities in Kerala, with the highest concentrations in Palakkad, Thiruvananthapuram, Kollam, Thrissur, and Malappuram districts. The *KILA Survey (2011)* reported that about 5.64 lakh SC families live in 26,342 colonies, many of which suffer from poor housing and weak infrastructure. Although SCs in Kerala perform better than the all-India

- Kerala's SC population is significant, with many living in colonies average in indicators such as literacy (88.7% vs. 66.07%) and sex ratio (1057 vs. 945), they continue to face structural issues like landlessness, houselessness, and livelihood insecurity.

- SCs work mainly as low-paid agricultural labourer

Employment data from *Census 2011* shows that 32.93% of SCs in Kerala were main workers compared to 27.93% of the general population. However, nearly 29.9% of these main workers were engaged as agricultural labourers, reflecting their continued dependence on low-paid and unskilled work. The proportion of SC workers in other services also showed a slight decline, from 66.31% in 2001 to 65.71% in 2011. As per the Gulati Institute of Finance and Taxation *SC Household Primary Sample Survey (2017–18)*, about 73% of SCs belong to the working-age group, yet many lack access to higher education, professional training, and secure non-agricultural jobs. Importantly, SC women's work participation (19.59%) is higher than that of the general female population (12.37% in 2011), but they remain concentrated in low-income, insecure, and informal employment.

- SCs face digital and financial exclusion, with limited access to computers

Despite progress, SCs in Kerala continue to experience digital exclusion, financial exclusion, and asset poverty. As per *Census 2011*, only 1.93% of SC households in Kerala had a computer with internet access, and just 10.6% owned two-wheelers, which is much lower than Tamil Nadu's SC households (19.94%). Kerala performs better in banking access (60.15% of SC households vs. the national average of 50.94%) and television ownership (61.17% vs. 39.15% nationally), but access to affordable credit, productive assets, and IT facilities remains limited. The *Kerala State Planning Board's 14th Plan Working Group Report (2022)* highlights landlessness, poor infrastructure in colonies, inadequate access to digital and financial resources, and lack of higher education and skill development opportunities as the core challenges restricting SC empowerment in the State.

The Government has adopted multiple measures to address the challenges faced by Scheduled Castes in Kerala, focusing on land and housing security, education, employment, and social inclusion. Land distribution and housing schemes such as the Laksham Veedu Scheme and Pradhan Mantri Awas Yojana aim to reduce landlessness and poor living conditions in colonies, while scholarships, hostels, and fee concessions promote access to higher education. Skill training and coaching programmes run by the SC Development Department and Kerala Institute of Labour and Employment improve employability, and reservations in public jobs alongside entrepreneurship schemes ensure livelihood opportunities. Kudumbashree links SC women to credit and income generation, while digital literacy missions and Jan Dhan Yojana expand digital and financial inclusion. Social security pensions, health and nutrition schemes, and the SC/ST (Prevention of Atrocities) Act provide welfare and protection. Together, these initiatives seek to overcome structural disadvantages such as landlessness, insecure jobs, asset poverty, and digital exclusion, and promote the overall empowerment of SC communities in Kerala.

- Government measures for SCs to improve their livelihood opportunities

4.3.3.3 Tribal Communities

Tribal communities form 4.3% of Kerala's population, which is about 1.5 million people, as per the Census of 2011. They are mostly concentrated in districts like Wayanad, Idukki, and Palakkad, where the hilly terrain makes accessibility difficult. The sex ratio among tribals stands at 1,040 females per 1,000 males, which is higher than India's average of 940, as per Census 2011. However, maternal and infant mortality remain higher in tribal areas due to lack of healthcare access, as highlighted in the Kerala Economic Review 2024 and Planning Board reports.

- Tribals are 4.3% of Kerala's population concentrated in hilly districts

The literacy rate among Kerala's tribal population is 69%, while the state average is 94%, as per Census 2011. There are wide inter-tribal disparities: the Malai Arayan tribe records relatively high literacy, while the Paniyan tribe has low literacy and high dropout rates. Barriers to education include language and cultural mismatch with mainstream curricula, first-generation learners whose families prioritise wage work over schooling, and poor infrastructure, since many tribal hamlets lack nearby schools. These issues have been pointed out in the Working Group Report on Scheduled Tribe Development prepared by the Kerala State Planning Board in 2017.

- Education Barriers include language, cultural mismatch, first-generation learners, and poor infrastructure

Tribes like the Irular and Marati show higher work participation rates, but this is largely in low-paid manual labor, as per Census 2011. A clear gender gap exists: men often migrate for plantation and agricultural work, while women remain engaged in unpaid subsistence farming and domestic work. Traditional occupations such as basket weaving, forest produce collection, and herbal medicine are under threat due to market neglect and low returns. Poverty incidence among Adivasis

- Tribals participate in low-paid manual labour continues to be higher than the state average, according to the NITI Aayog Multidimensional Poverty Index 2023.

- Tribals face increasing vulnerability to diseases due to poor living conditions

Remote tribal areas lack proper hospitals, making people to depend on mobile health units and traditional healers. Infant mortality is higher among Scheduled Tribes compared to the state average, as per the Kerala Economic Review 2024. Malnutrition is prevalent among tribal children, as noted by the Planning Board in 2017 and the National Family Health Survey (NFHS-5, 2019–21). Many tribal settlements also face inadequate access to safe drinking water and toilets, increasing the risk of diseases. Cultural mistrust of modern medicine and reliance on traditional practices often delay timely treatment.

- Women's participation is limited

The Kerala government has introduced several initiatives such as ST reservation in education and employment, housing schemes, the Tribal Health Care Scheme, and nutrition programs. These have led to improvements in housing, sanitation, and certain education outcomes. However, problems persist. Many benefits do not reach the most marginalised sections, as observed by the Working Group on Scheduled Tribe Development in 2017. In addition, women's participation in welfare committees remains limited, reducing the inclusiveness and effectiveness of these programs.

4.3.3.4 Transgender persons

As per the Kerala State Planning Board, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, Social Services Division, March 2022, the LGBT community in Kerala faces severe discrimination and social stigma across multiple spheres of life—family, education, workplaces, and public spaces. They often experience teasing, sexual harassment, social exclusion, and denial of rights. While the Supreme Court judgment of April 2014 recognised transgender persons as socially and educationally backward and provided legal protection against discrimination, real-life challenges persist. Kerala became the first Indian state to announce a Transgender Policy in 2015, following a state-wide survey that highlighted the struggles of the community. Though Male-to-Female transgender individuals have gained some visibility in the public sphere, other gender identities remain largely invisible, and their issues remain unaddressed (Kerala State Planning Board, 2022).

- LGBTQ persons face discrimination, social stigma, and denial of rights across family

Economic insecurity, limited employment opportunities, and

- LGBT, they experience limited employment, forced heterosexual marriages

lack of access to education and housing are major challenges for the community. Government initiatives such as employment reservations in the Kochi Metro, skilling programs, and financial assistance for income-generation activities have benefited only a few; 20 individuals have availed loans to start projects. Many LGBT individuals are forced into heterosexual marriages due to social pressure, family violence, or anxieties related to old age, loneliness, and financial insecurity. This often leads to psychological distress, substance abuse, and strained personal relationships. Women married to gay or bisexual partners frequently face emotional neglect and rejection, highlighting the compounded social vulnerability of heterosexual women in such marriages (Kerala State Planning Board, 2022).

- Specialised health facilities and trained professionals are scarce

Access to healthcare remains inadequate for transgender and LGBT populations. Very few specialized health facilities or trained medical professionals exist in the state, and medical curricula do not sufficiently address LGBTQ health concerns. Many individuals rely on unregulated private providers, increasing the risk of complications. Social exclusion, homophobia, and violence contribute to poor mental health outcomes. Immediate priorities for the 14th Five-Year Plan (2022–2027) include improving livelihood, employment, education, housing, and access to gender-sensitive healthcare services, while also promoting a socially inclusive and supportive environment for transgender and other sexual minorities (Kerala State Planning Board, 2022).

4.3.4.5 Elderly Population

- Kerala's ageing population is rising rapidly, projected to reach 30% by 2051

Kerala is ageing much faster than the national average. As per the Times of India report (2023), about 22.8% of Kerala's population will be elderly by 2036. The International Institute of Migration and Development (IIMAD) notes that people aged 60+ were 12.7% in 2011, which rose to 15% in 2021 and is projected to reach 30% by 2051. This means by 2030, the elderly will outnumber children, creating pressure on healthcare, pensions, and caregiving systems.Despite Kerala's good health indicators, the elderly face chronic lifestyle diseases, disability, and mental health issues. The Kerala Economic Review (2024) highlights the high burden of non-communicable diseases (NCDs) such as diabetes, hypertension, and cancer among the elderly. NFHS-5 (2019–21) shows that a significant proportion of elderly women suffer from anaemia and poor nutrition. Access to geriatric care remains limited in rural and tribal areas, and there is growing dependency on private hospitals, making healthcare expensive.

- Migration and urbanisation increase elderly isolation

With falling fertility and migration of younger generations, elderly isolation and loneliness are rising. The State Planning Board (2023) reported that many older persons live alone or only with their spouse. Traditional family-based care has weakened due to urbanisation and migration. Economically, while Kerala provides pensions, delays in disbursal and low coverage leave many dependent on children or social support. Elderly women, in particular, face higher vulnerability due to widowhood and low-income security.

- Government measures for elderly to improve healthcare, and social security

Kerala had an elderly policy in 2006 (updated in 2013), and in 2025, it introduced a draft State Policy for Elder Persons alongside the Senior Citizens Commission Act, 2025. These frameworks aim to strengthen healthcare, social security, day-care centres, and elderly participation in society. However, the Working Group on Social Welfare (13th Five-Year Plan, 2017) observed that implementation is uneven-schemes for elderly nutrition, healthcare, and housing often fail to reach the most vulnerable, particularly elderly women and those in tribal areas.

4.3.3 Gender Issues in Kerala

- Women's empowerment is globally recognised as a prerequisite for sustainable human development

Women's empowerment is globally recognised as a prerequisite for sustainable human development. The United Nations Sustainable Development Goals (SDGs) have clearly outlined gender equality and the empowerment of all women and girls as Goal 5 (SDG 5), underscoring that eliminating gender-based discrimination is both a basic human right and a critical requirement for building a just and sustainable future. At the national level, India's performance in gender-related indices reveals persistent challenges. According to the 2023-24 Human Development Report, India scored 0.644 on the Human Development Index (HDI), ranking 134th out of 193 countries and territories. More significantly, India falls into Group 5 of the Gender Development Index (GDI) classification, indicating low equality in HDI achievements between men and women. Furthermore, in the Global Gender Gap Report 2024 released by the World Economic Forum, India ranks 129th out of 146 countries, highlighting wide gender disparities in economic participation, political empowerment, education and health.

- Kerala has achieved a progressive approach to gender-related development

In this broader national context, Kerala often stands out for its progressive approach to gender-related development. The state has implemented gender-sensitive policy initiatives such as gender budgeting, inclusive health insurance schemes, support for women's cooperatives and gender-aware educational reforms. These efforts have contributed to Kerala's reputation as a socially advanced state, especially in terms of female literacy, maternal health and women's participation in grassroots governance. However, despite these achievements, Kerala is not without gender-related challenges. Let us discuss them in details:

- Political representation of women remains low

As per the Kerala State Planning Board, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, March 2022, Kerala exhibits a 'Gender Paradox.' Despite a favorable sex ratio of 1,084 women per 1,000 men as per Census 2011 and high female literacy, women continue to face challenges in economic, political, and social spheres. Female workforce participation for those aged 15 and above was 25.4 percent in 2018–19 compared to 67.7 percent for men, limited by social restrictions, unpaid care work, and a mismatch between jobs and women's qualifications. Political representation remains low, with women MLAs never exceeding 10 percent historically, and although 54 percent of elected local body members in 2020 were women, their presence in apex decision-making bodies is low. Women dominate unpaid domestic work, with participation rates of 82.1 percent in rural areas and 79.2 percent in urban areas, while men's participation was only 27.7 percent and 22.6 percent respectively, as per the Time Use Survey 2019.

- Domestic violence is most reported, with increased calls during COVID-19 lockdown

As per the Kerala State Planning Board report, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, Social Services Division, March 2022, gender-based violence and workplace challenges exist across the state. Domestic violence is the most reported issue at the Mitra 181 helpline, with calls nearly doubling during the COVID-19 lockdown from 58 to 113 per month. A study by KILA found that over 50 percent of helpline calls reported physical abuse, often triggered by financial constraints. Dowry-related violence continues to place women at risk of abuse, financial stress, and even death. Cyber violence is increasing, with Mitra helpline reports rising from 311 cases in 2019 to 390 in 2020. Workplace harassment remains a major concern despite the Sexual Harassment at Workplace Act of 2013, as many offices have not constituted Internal Committees and awareness about their functioning is low.

As per the Kerala State Planning Board, 14th Five-Year Plan (2022–2027), Working Group on Gender and Development, Social Services Division, March 2022 health disparities among women remain a challenge. Physical health issues include higher obesity among women at 38.1 percent compared to 36.4 percent for men, with 70.7 percent of women having a high waist-hip ratio, increasing the risk of cardiovascular disorders. Diabetes affects 24.8 percent of women and hypertension 30.9 percent, as per NFHS 2019-20. Mental health concerns are high, with women experiencing greater rates of stress, depression, and anxiety, while housewives account for 51.5 percent of female suicide victims nationally. Reproductive health also remains an issue, with female sterilisation at 46.6 percent compared to 0.1 percent for males, indicating a significant unmet need for contraception.

- Health disparities among women remain significant

Marginalised women and the transgender population face compounded disadvantages as per the Kerala State Planning Board. SC/ST women experience landlessness, with 80 percent living in colonies, slums, or marginal lands, and low workforce participation at 39.66 percent compared to 60.34 percent for men. High dropout rates in higher education continue to affect these communities. Women in fishing communities face vulnerability to climate change, livelihood loss, and limited access to resources and decision-making, with men's alcoholism adding financial pressure. Despite Kerala adopting a Transgender Policy in 2015, transgender individuals continue to face discrimination, social stigma, and violence, with 41 percent reporting violence and 19 percent attempting suicide in the previous year. Immediate priorities include improving access to livelihood, employment, education, housing, and gender-sensitive healthcare services.

- Marginalised women face issues are landlessness, low workforce participation and limited resources

4.3.4 Gender Neutral Schemes of the Government

The Kerala Government has adopted a progressive, inclusive approach through several gender-neutral schemes that focus on safety, empowerment, health and welfare, catering to all vulnerable individuals irrespective of gender. Let us discuss some of the major Gender Neutral Schemes of the Government.

1. **One Stop Centre:** The One Stop Centre initiative stands out as a critical support service. Operational in all districts, these Centres offer comprehensive aid to

individuals facing violence, including medical care, police and legal support, counselling, temporary shelter and transportation facilities. In 2023–24, more than 4,100 beneficiaries were supported.

2. **Aswasanidhi Scheme:** The Aswasanidhi Scheme provides financial relief to victims of gender-based violence, including survivors of acid attacks, domestic violence and sexual abuse. With a corpus fund of ₹3 crores set aside in 2018–19, ₹2 crores was spent in 2023 – 24 alone, assisting 271 victims with interim support.

3. **Safe Stay Project ;**The Safe Stay Project, developed by the Kerala State Women's Development Corporation (KSWDC), is also a gender-neutral initiative that provides safe, secure and affordable short stay accommodation for women travellers. The project is supported through a mobile app called "Safe Stay," which integrates verified hostels and provides information for travellers seeking temporary accommodation. Though designed primarily for women, its structure encourages inclusivity in terms of accessibility and safety standards, promoting the right to mobility and safe public infrastructure.

- Government provides comprehensive support to victims of violence: medical care, police/legal aid, counselling, shelter, and transportation

4. **Dheera Project :**The Dheera Project is an innovative self-defense training initiative for adolescent girls, implemented through the Nirbhaya Cell in collaboration with the Police Department. In 2023–24, it empowered 1,260 girls across Panchayats through martial arts training. While focused on girls, the broader goal of the scheme is to build a culture of self-reliance and resilience that can be extended to all children in future.

5. **VIVA Programme:** The VIVA Programme, launched in 2021, is aimed at tackling anemia among women, but is also being scaled up to include awareness among all vulnerable sections. Run in collaboration with the Health Department and Local Self-Governments, this programme uses mass media and grassroots-level campaigns to raise public health awareness.

6. **Gender Park :**The Gender Park is another significant initiative that supports academic, cultural and policy activities promoting gender equity. With partnerships such as the MoU with UN Women, it promotes inclusive urban planning and gender-sensitive public spaces for women, transgender individuals and other marginalised

genders. The park houses the Gender Data Hub, a Heritage Museum and a library focused on gender studies.

7. **Gender Self-Learning Programme (GSLP) :** The Gender Self-Learning Programme (GSLP) by Kudumbashree is a participatory education model where women collectively learn about issues like employment, health, mobility, gender justice and dowry. Though it primarily targets women in neighbourhood groups (NHGs), its themes and awareness campaigns extend to the wider community through theatre, digital tools and community events, making it broadly inclusive.

8. **She Pad" and the M Cup Programme:** The Kerala State Women's Development Corporation (KSWDC) also runs projects such as "She Pad" and the M Cup Programme, which promote menstrual hygiene and awareness. While mainly serving schoolgirls and women, the awareness component educates society at large, fostering inclusivity. KSWDC's "Reach" Finishing School and ASEPN nursing skill training enhance employability, especially among women, but remain open to vulnerable individuals seeking economic independence.

- Schemes of government collectively show Kerala's commitment to gender-inclusive development

Together, these schemes illustrate Kerala's strong commitment to equity-focused, gender-inclusive development, by addressing not only women's needs but also broader social vulnerabilities, safety concerns and developmental goals.

4.3.5 Kudumbashree

- Kudumbashree launched in 1998 under the State Poverty Eradication Mission

Kudumbashree is Kerala's flagship programme for poverty eradication and women's empowerment. Launched in 1998 under the State Poverty Eradication Mission, it operates under the Local Self Government Department. Kudumbashree empowers women economically, socially and psychologically, particularly those from marginalised communities, by building community institutions and supporting income-generating activities.

Kudumbashree plays a major role in economically empowering women in Kerala by promoting financial inclusion, entrepreneurship and collective farming. At the heart of its economic model lies the Thrift and Credit System,

- The heart of Kudumbasree lies the Thrift and Credit System

built through Neighbourhood Groups (NHGs), where women come together to save small amounts regularly. These pooled savings are then circulated as internal loans among members, promoting self-reliance and reducing dependence on informal money lenders. In 2023–24, NHGs mobilised ₹707.5 crores in thrift and the value of internal loans was more than three times that amount, reflecting the success and trust in this system. This not only fosters financial independence but also enhances women's decision-making power within the household.

- Empowering women through enterprise and farming

Kudumbashree also actively encourages Micro-Enterprises, supporting women in starting small scale businesses, production units and service ventures. These initiatives are particularly important in rural areas, where job opportunities for women are limited and they help ensure a stable source of income. In addition, Joint Liability Groups (JLGs) enable women to engage in collective farming. In 2023–24, more than 4 lakh women cultivated over 16,000 hectares of land. These groups receive strong institutional support, including zero-interest loans from nationalised banks (without collateral), agricultural training and continuous guidance from experienced Community Resource Persons known as Master Farmers. Together, these interventions have created a strong foundation for women's economic empowerment across Kerala.

- Skilling women for formal healthcare jobs

Kudumbashree plays a proactive role in increasing women's participation in the workforce through targeted skill development programmes. One such initiative is the Harsham Programme, launched in 2018, which offers 15-day intensive training in geriatric and hospital care. Conducted in collaboration with healthcare professionals, this programme equips women with skills needed for elderly care and related services. As a result, many trained women have secured salaried jobs in care homes, hospitals and private households, enabling them to enter the formal workforce and attain financial independence.

- Empowering women through collective action

Beyond economic support, Kudumbashree promotes social empowerment by creating collective platforms for women through Neighbourhood Groups (NHGs). These groups act as safe spaces for discussing pressing social issues such as domestic violence, dowry and alcoholism. Through open dialogue and mutual support, women gain awareness, build confidence and develop the courage to resist gender-based discrimination. Additionally, NHG members actively participate in health and nutrition campaigns, making women more visible in public health planning and delivery and contributing meaningfully to community well-being.

- Women drive civic and social change

Kudumbashree also focuses on building leadership and civic participation among women. Many women participate in governance through Area Development Societies (ADS) and Community Development Societies (CDS), with a significant number advancing to leadership positions in local self-government institutions like Panchayats. Their growing political participation helps break traditional gender roles and inspires other women to engage in public life. Kudumbashree members also lead awareness campaigns against social evils such as dowry and gender-based violence. These campaigns are often carried out in collaboration with government initiatives like Nirbhaya, One Stop Centres and Aswasanidhi, thereby reinforcing women's agency in driving social change.

- Driving women's financial and social inclusion

Through all its initiatives, Kudumbashree ensures financial and social inclusion of poor and marginalised women. It promotes financial literacy, digital awareness and entrepreneurship, helping women build sustainable livelihoods. At the same time, it fosters community solidarity and reduces gender based economic dependency. Kudumbashree's inclusive and participatory approach helps women step into the economic and social mainstream, making it a powerful model for grass roots development and empowerment in Kerala.

4.3.6 Poverty Mission

- Welfare investment and governance reduced poverty

Kerala is widely acknowledged for its distinctive development model that has led to a significant reduction in poverty levels, setting it apart from most other Indian states. This remarkable achievement was made possible despite the state's historically low per capita income, primarily due to sustained public investment in key sectors such as healthcare, education and social security. The state also strengthened its welfare outcomes through a well functioning public distribution system (PDS) and a highly participatory governance structure led by active Local Self-Governments (LSGs).

Over the decades, Kerala has witnessed a sharp decline in poverty rates. In 1973–74, the poverty rate stood at a high 59.8%, which fell drastically to 11.3% by 2011–12. According to the Multidimensional Poverty Index (MPI) released by NITI Aayog, Kerala recorded the lowest multidimensional poverty

- Massive, sustained poverty reduction in Kerala

rate in India only 0.71% in 2021, which further declined to 0.55% in the 2023 MPI report. The state has consistently outperformed others in core indicators such as low child and maternal mortality, higher years of schooling and school attendance and minimal deprivation in areas like sanitation, housing, electricity and nutrition.

- Poverty persists among marginalised communities

Despite these achievements, Kerala still faces challenges in addressing poverty among certain marginalised groups. Pockets of deprivation persist, particularly among Scheduled Castes (SC), Scheduled Tribes (ST), fisherfolk, potters, artisans and those residing in remote rural areas. These disparities call for continued and targeted interventions to ensure inclusive development and the complete eradication of extreme poverty.

4.3.6.1 Government Initiatives to Combat Poverty in Kerala

- A targeted approach to eradicate poverty

Kerala has adopted a comprehensive and multi-dimensional approach to eliminate poverty, especially extreme poverty, by implementing targeted schemes and social welfare programmes. These initiatives focus on identifying the most deprived households and ensuring they receive the necessary support through interdepartmental coordination and decentralised governance mechanisms.

A. Ashraya Programme: The Ashraya Programme was one of the early welfare schemes launched by the Government of Kerala to address the needs of destitute individuals and families. This initiative aimed to provide a safety net for the most vulnerable by offering essential support such as food, shelter and medical care. The programme successfully reached around 1.57 lakhs beneficiaries across the state. It served as a foundational effort in the state's poverty alleviation strategy by helping identify those in severe deprivation and offering immediate relief through local bodies and social welfare departments.

- Traditional poverty measurement by focusing on deprivation, lack of food, income poverty, health issues and lack of shelter

B. Extreme Poverty Eradication Programme (EPEP): Following the Ashraya initiative, the Government of Kerala launched the Extreme Poverty Eradication Programme (EPEP) after 2022 as a flagship mission to systematically identify and eliminate extreme poverty across the state. The Commissionerate of Rural Development was designated as the nodal agency for this programme. EPEP aimed to go beyond traditional poverty measurement by focusing on four critical indicators of deprivation-lack of food, income poverty, health issues and lack of shelter.

The programme targeted households not already covered under the Ashraya scheme. A state-wide survey was conducted, beginning with nominations at the ward level, followed by rigorous screening and validation processes, including direct interviews and Grama Sabha scrutiny. This effort culminated in the identification of 64,006 extremely poor households in need of immediate and sustained support. The EPEP represents a holistic, decentralised and data driven strategy to eradicate poverty, integrating local-level planning with state level policy coordination.

- A data-driven survey identified poor households

The Extreme Poverty Eradication Programme (EPEP) has recorded remarkable achievements since its inception. As of October 31, 2023, 47.9% of the identified extremely poor families in Kerala have been successfully uplifted through targeted interventions. Specifically, 15,276 families received food kits, while 5,336 families were provided with cooked meals through community kitchens and Kudumbashree's Janakeeya hotels. In terms of healthcare, 21,027 families were given treatment and regular medical support and 4,977 individuals received palliative care. Further, 841 households were assisted with income-generating activities to ensure a sustainable livelihood and 693 individuals, particularly from vulnerable groups, were shifted to shelter homes for safety and rehabilitation. A major milestone was achieved by Kuttiyattur Gram Panchayat in Kannur, which became the first Panchayat in Kerala to eradicate extreme poverty entirely, demonstrating the effectiveness of localised planning and implementation.

- As of October 31, 2023, 47.9% of the identified extremely poor families in Kerala have been successfully uplifted

A district wise review of progress shows that Kannur district led the initiative with 62.19% of its extremely poor families being uplifted. This was followed by Thrissur (54.00%), Kottayam (51.91%) and Thiruvananthapuram (51.68%). These districts outperformed others by leveraging the resources of Local Self Governments, inter-departmental collaboration and focused micro-planning. On the other hand, districts like Pathanamthitta (38.15%), Kollam (40.55%) and Wayanad (40.84%) showed relatively lower levels of poverty eradication progress, signalling the need for more intensified and focussed interventions in the coming phase. Building on the success of the first phase, the Government of Kerala has set an ambitious target to completely eradicate extreme poverty by November 1, 2025. This goal reflects the State's unwavering commitment to inclusive development and its intent to address even the most isolated pockets of deprivation.

- District poverty eradication shows mixed results

Summarised Overview

Marginalised sections include those excluded from mainstream society, economically, socially and politically. In Kerala, despite high human development achievements, communities such as Scheduled Castes (SCs), Scheduled Tribes (STs) and transgender persons continue to face systemic exclusion and vulnerability.

The Government of Kerala has implemented a range of gender-neutral schemes that aim to promote safety, empowerment, health and welfare, focusing on all vulnerable individuals, regardless of gender. These schemes reflect Kerala's progressive and inclusive development strategy. Examples include the One Stop Centre, Aswasanidhi Scheme, Safe Stay Project, Dheera Project, VIVA Programme and Gender Park.Together, these initiatives show Kerala's commitment to inclusive development, ensuring that gender justice goes hand in hand with public safety, economic empowerment, health equity and community engagement.

Kudumbashree is Kerala's flagship programme for poverty eradication and women's empowerment. Launched in 1998 under the State Poverty Eradication Mission, it operates under the Local Self Government Department. Kudumbashree empowers women economically, socially and psychologically, particularly those from marginalised communities, by building community institutions and supporting income-generating activities.

Kerala is widely acknowledged for its distinctive development model that has led to a significant reduction in poverty levels, setting it apart from most other Indian states. This remarkable achievement was made possible despite the state's historically low per capita income, primarily due to sustained public investment in key sectors such as healthcare, education and social security. The state also strengthened its welfare outcomes through a well-functioning public distribution system (PDS) and a highly participatory governance structure led by active Local Self-Governments (LSGs).

Assignments

1. Define marginalised sections and explain the challenges they continue to face despite high human development achievements in the state Kerala.
2. What is the major gender-neutral schemes?
3. Evaluate the role of Kudumbashree in empowering women from marginalised communities in Kerala.

4. Explain the poverty mission in Kerala.

5. How does the Government of Kerala ensure gender justice through public schemes and programmes?

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Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

UNIT 4

Environmental Challenges

Learning Outcomes

After completing this unit, the learner will be able to:

- discuss the major biodiversity challenges faced by Kerala
- know about the causes and impacts of natural disasters
- analyse the adaptation and mitigation responses to environmental challenges
- describe the key features of the disaster management plan 2010

Background

Kerala is blessed with rich biodiversity and diverse ecosystems ranging from forests and wetlands to coastal and mountainous regions. However, in recent years, the state has been increasingly exposed to environmental challenges that threaten both ecological balance and human life. Key among these are the loss of biodiversity, frequent natural disasters like floods and landslides and the growing impact of climate change.

The state has experienced multiple devastating floods and landslides in recent years, causing loss of life, property and livelihood. These disasters have highlighted the urgent need for strong adaptation and mitigation strategies to enhance resilience and reduce vulnerability. In this context, Kerala has developed proactive policies such as the Disaster Management Policy (DMP) 2010, which aligns with the national Disaster Management Act of 2005.

Efforts like the development of Early Warning Systems, use of hazard maps and the preparation of Local Self-Government Disaster Management Plans (LSG DM Plans) have strengthened disaster preparedness at the community level. These decentralised planning efforts ensure that disaster risk reduction is integrated into local development processes.

By studying this unit, we gain an understanding of Kerala's environmental risks, the impact of disasters on development and the institutional and technological responses aimed at building a safer and more sustainable future.

Keywords

Biodiversity, Deforestation, Climate Change, Natural Disaster, Mitigation, Strategy

Discussion

4.4.1 Environmental Challenges Facing Kerala

- Ecology threatened by climate, human actions

Kerala's, unique ecological makeup, characterised by the Western Ghats Mountain range, a dense network of rivers and a long coastline, is under stress from a combination of climate change impacts and unsustainable human activities. The environmental challenges are interconnected and often exacerbate each other, leading to a vicious cycle of ecological degradation and increased vulnerability to disasters.

1. Unsustainable Land Use and Habitat Degradation

- **Deforestation:** For decades, the conversion of forest land for agriculture (particularly for cash crops like rubber and tea), urbanisation and infrastructure has led to significant deforestation in the Western Ghats, a globally recognised biodiversity hotspot. This has resulted in habitat loss for endemic species like the Nilgiri Tahr and the lion-tailed macaque, disrupting local ecosystems and climate patterns.

- Deforestation and quarrying degrade the land

- **Quarrying and Unscientific Construction:** The demand for construction materials has led to rampant, often illegal, quarrying of laterite and hard rock from hillsides. This activity destabilises slopes and contributes directly to the increasing frequency and severity of landslides. Scientific studies have shown a direct correlation between the number of quarries and landslide events in districts like Malappuram. Unscientific construction in ecologically sensitive areas further compounds the risk.

2. Water Scarcity and Widespread Pollution

- **Water Scarcity:** Despite receiving abundant rainfall, Kerala is increasingly facing water scarcity, particularly during summer. The primary reason is the poor water retention capacity of the land. Deforestation, the filling of wetlands and the conversion of paddy fields have reduced the land's ability to absorb rainwater, leading to rapid runoff and a subsequent drop in groundwater levels.

- Degradation of rivers and increased salinity in coastal aquifers affect drinking water and agriculture

- **Pollution of Water Bodies:** Kerala's extensive network of 44 rivers, lakes and backwaters is under threat from pollution. Industrial effluents, untreated sewage, agricultural runoff containing pesticides and fertilizers and the widespread dumping of solid waste are major contaminants. This has led to the degradation of major rivers like the Periyar and increased salinity in coastal aquifers due to sand mining, affecting both drinking water and agriculture.

3. Solid Waste Management Crisis

- **Ineffective Systems:** Waste management has emerged as one of the most critical environmental challenges. There have been efforts to implement decentralised systems, as many central processing facilities remain non-functional or unscientific. The fire at the Brahmapuram waste plant in Kochi highlighted the failures of centralised waste management and the dangers of accumulated, unsegregated waste.

- Kerala generates a large volume of municipal solid waste that poses a major environmental threat

- **Plastic Pollution:** The unprecedented increase in plastic consumption, particularly single-use plastics, poses a major threat. Improper disposal leads to the clogging of drains, polluting rivers and backwaters and creating a health hazard when plastics are openly burned, releasing toxic chemicals into the air.

4. Coastal Erosion and Sea-Level Rise

- **Erosion and Livelihood Loss**: With a coastline of 590 km, Kerala is highly vulnerable to coastal erosion. Studies show that over 46% of Kerala's coastline is eroding. This is driven by natural processes, but human activities such as sand mining from beaches and rivers and the construction of ill-planned sea walls and ports have greatly accelerated it. The relentless erosion threatens the livelihoods and homes of millions of people dependent on fishing and tourism.

- **Swell Wave Events:** The coastline is also frequently impacted by "Kallakadal" or swell wave events, caused by distant storms in the Southern Ocean. These "rogue" waves, combined with rising sea levels, cause rapid coastal inundation and land loss, particularly in low-lying areas. The state has been working to build coastal resilience through projects like mangrove restoration and the construction of natural barriers, though challenges remain.

- Kerala has a 590 km-long coastline and is vulnerable to coastal erosion

4.4.2 Biodiversity Challenges

- Biodiversity refers to the variety of life found on Earth

Biodiversity means the variety of life found on Earth. It includes different types of genes, species and ecosystems. It helps in maintaining ecological balance by providing food, clean air and water, medicine and climate regulation. Without biodiversity, life on Earth cannot survive. The world is home to millions of species of plants, animals and microorganisms. Forests, oceans, wetlands and deserts together form rich and diverse ecosystems.

When we look at India, it is one of the 17 mega-diverse countries of the world. India accounts for almost 8% of the world's biodiversity, with varied ecosystems such as the Himalayas, Indo-Gangetic plains, deserts, forests and coastal regions. India is also a centre for crop diversity, medicinal plants and rich wildlife. To conserve this biodiversity, India enacted the Biological Diversity Act, 2002 and established the National Biodiversity Authority. Coming to Kerala, located in the Western Ghats, it is known as a biodiversity hotspot. Out of the 39 UNESCO World Heritage sites in the Western Ghats, 19 are in Kerala. Around 95% of the flowering plants and 90% of the vertebrate species of the Western Ghats are found here. Kerala has unique ecosystems such as tropical forests, wetlands, mangroves, marine areas and backwaters. The Kerala State Biodiversity Board (KSBB) plays an important role in conserving these valuable resources.

- India and Kerala have unique and rich biodiversity

Kerala's rich biodiversity, which is a key feature of its unique ecosystems, is currently confronted with a variety of complex challenges, intensified by the global climate crisis and multiple human-induced pressures. Understanding these threats is essential for formulating effective conservation strategies. The challenges are discussed below:

1. The Overarching Threat of Climate Change

Global warming poses a fundamental risk to Kerala's ecology. Projected changes in rainfall and temperature patterns are expected to disrupt the growth and regeneration cycles of many plant species, potentially leading to a significant loss of biodiversity. This could trigger a shift in the ecological boundaries of key habitats such as tropical evergreen forests, sholas and mangroves. Climate induced alterations are also anticipated to intensify forest fires, increase the vulnerability of endemic species, lead to the disappearance of traditional marine fish and reduce mangrove habitats. Furthermore, a changing climate can favour the spread of invasive exotic species and escalate human-wildlife conflicts.

- Global warming disrupts rainfall and temperature patterns

2. Direct Anthropogenic Pressures on Forest Ecosystems

- **Encroachment:** As one of India's most densely populated states, Kerala faces a severe land-shortage challenge. Unregulated encroachment of forest lands, which historically began with government schemes like 'grow more food,' has led to significant habitat loss. The presence of human settlements on forest fringes not only degrades habitats but also provides a cover for illegal activities, posing a constant threat to the integrity of the forest. The state's policy to evict encroachments after 1977 is a step towards reducing this issue.

- **Illegal Felling and Firewood Collection:** The unauthorized removal of timber and biomass, primarily for firewood, constitutes a major threat. This activity disrupts the microhabitats of forest flora and fauna and an estimated 0.8 million cubic meters of firewood is illegally extracted annually. The close proximity of human settlements to forests is a key driver, which, in turn, can lead to extensive forest fires and alter the composition and structure of natural vegetation.

- Encroachment, logging, and grazing harm forests

- **Cattle Grazing:** While less widespread than in other parts of India, cattle grazing in forest areas contributes to biodiversity loss. Grazing removes essential biomass, creates competition with wild herbivores and can transmit contagious diseases to wild animal populations. The physical trampling of soil leads to erosion and alters soil properties, potentially facilitating the dominance of a few hardy species and accelerating the invasion of weeds.

3. Human-Wildlife Conflict and Illegal Activities

- **Man-Animal Conflict:** The increasing frequency of conflicts between humans and animals, particularly large herbivores like elephants, is a growing conservation concern. Habitat fragmentation and degradation of natural corridors have pushed animals into human-inhabited areas, leading to crop depredation and loss of human life. The tradition tolerance of local communities is waning, leading to retaliatory killings of animals through poisoning or other harmful means. While compensation for damage is provided by the Forest Department, it is not a sustainable, long term solution.

- Conflict and poaching threaten local wildlife

- **Poaching:** The high demand for wildlife products in clandestine markets fuels poaching activities. Herbivores such as gaur and sambar are hunted for their meat, while a wide range of other species, including reptiles, birds and even medicinal plants, are part of the illicit trade. Poaching's primary impact is a loss of species and a destabilisation of animal demographics.

4. Unsustainable Resource Exploitation

- **Non-Timber Forest Produce (NTFP) Collection:** NTFPs are a vital source of livelihood for many local communities. However, a market-driven, unscientific and unsustainable approach to their collection has become a significant threat to natural vegetation. The number of commercially collected species far exceeds official records, leading to a degradation of natural vegetation.

- Unsustainable collection and mining degrade land

- **Mining:** While not a widespread threat to all of Kerala's biodiversity, indiscriminate sand mining, particularly in the central and southern regions, poses a severe risk. It leads to land instability, lowering of the water table and endangers riparian species with very specific habitat niches.

5. Indirect Threats and Ecological Disruptions

- **Mass Tourism and Pilgrimage:** The large-scale influx of tourists and pilgrims into sensitive forest ecosystems, such as the Periyar Tiger Reserve, creates significant disturbances. The high foot traffic leads to littering, soil erosion and can disrupt the natural behaviour of wildlife, affecting their feeding and ranging patterns.

- **Forest Fires:** Primarily of human origin, forest fires are a major threat. They are often started by individuals involved in illegal activities, such as cattle grazing (to encourage new shoots), poaching or illicit tree felling. The intensity and frequency of fires can alter vegetation composition, degrade soil and cause extensive habitat loss.

- **Invasive Species:** The introduction of non-native plant and animal species represents a severe ecological and economic threat. Examples like the water hyacinth (Eichornia crassipes), a globally recognized invasive species, choke waterways, block sunlight and reduce native biological diversity. Similarly, invasive animals such as the African Giant Snail (Achatina fulica) and Tilapia fish (Oreochromis mossambica) outcompete native species and pose significant agricultural and ecological challenges.

- High foot traffic leads to littering, soil erosion and disruption of wildlife behaviour

Kerala's rich biodiversity is one of its greatest natural assets, providing ecological stability, supporting livelihoods and contributing to cultural heritage. However, the growing threats from climate change, direct human activities and unsustainable resource use are putting this biodiversity under serious pressure. Effective conservation strategies must address both immediate and long-term challenges by promoting scientific resource management, stricter enforcement of environmental regulations, community participation and sustainable development practices. Only through a holistic and integrated approach can Kerala safeguard its unique ecosystems for future generations while balancing development needs with environmental preservation.

- Effective conservation strategies are needed to address long term environmental challenges

4.4.3 Natural Disasters in Kerala

Kerala has achieved remarkable progress in human development, despite being highly vulnerable to natural disasters due to its geographical features. Located between the Arabian Sea and the steep slopes of the Western Ghats, the state frequently faces hazards such as floods, landslides, droughts, lightning and coastal erosion. The Kerala State Disaster Management Plan identifies 39 natural and human-induced hazards. With a high population density of 860 persons per square kilometre, the impact of disasters in Kerala can be severe. Floods and landslides are the most common natural disasters, while water scarcity during summer and rising climate risks further increase the state's vulnerability in the recent decades, the frequency and intensity of these events

- Kerala is geographically prone to natural hazards due to its location have increased, with a complex interplay of environmental degradation and global climate change as key contributing factors.

4.4.3.1 The Great Flood of 1924

- The Great Flood of 1924 catastrophic flood was triggered by an unprecedented and continuous three-week spell of torrential monsoon rainfall. While not attributed to a specific cyclonic disturbance, the sheer volume of rain was far above the historical average. The natural topography and river systems were overwhelmed, leading to widespread overflowing.
    - **Loss of Life and Livelihood Disruption:** The agricultural economy, especially the tea plantations in Munnar, was severely affected. The Kundala Valley Railway, a vital transport link, was completely destroyed by landslides, isolating the region and disrupting trade.
    - **Geographical and Social Change:** The flood led to a significant change in the state's geography, including the formation of new river courses and the destruction of the old Aluva - Munnar road, which necessitated the construction of a new one. The event left a deep psychological scar and became a historical marker for generations.

- Cause of the Great Flood of 1924: Continuous three-week torrential monsoon rainfall

4.4.3.2 The 2004 Indian Ocean Tsunami

- The tsunami was a consequence of a major undersea earthquake in the Indian Ocean, not a state-specific event. However, Kerala's coastal geography made it highly vulnerable to the resulting waves.
- **Impact on People:** The tsunami's impact was concentrated along the coastal regions.
    - **Sudden Loss of Life:** The event caused a significant number of deaths, particularly among fishing communities, which were unprepared for such a disaster.
    - **Livelihood Destruction:** The fishing industry, a pillar of the coastal economy, was severely affected as homes, boats and fishing gear were destroyed. The event highlighted the need for robust coastal disaster preparedness and early

- The 2004 Indian Ocean Tsunami led to severe damage to the fishing industry in Kerala warning systems.

4.4.3.4 The 2018, 2019, 2020 and 2021 Floods and Landslides

- The string of severe floods and landslides from 2018 onwards is a complex case study of how climate change and human induced environmental degradation interact.
    - **Climate Change:** A key driver has been "unprecedented" and highly localised intense rainfall, a phenomenon, climate experts link to a warming Arabian Sea, which leads to the formation of deep cloud systems and mini cloudbursts.
    - **Environmental Degradation:** The high number of landslides was a direct result of unscientific land use. Widespread illegal quarrying, deforestation and construction on fragile, ecologically sensitive zones of the Western Ghats compromised the soil's stability, making it prone to saturation and debris flows.
    - **Dam Management:** In 2018, the simultaneous opening of gates from multiple reservoirs, due to an initial failure to release water in a controlled manner, exacerbated the flooding downstream. This highlighted a need for better coordination between reservoir management and disaster authorities.

- Illegal quarrying, deforestation and construction in fragile zones are the root causes of the floods and landslides

- **Impact on People:** These successive disasters had a cumulative and profound impact on the population.
    - **Displacement and Death:** The 2018 flood over 489 people died, 15 are missing and 140 were hospitalized, while The Economic Times reported that 33,000 people were rescued.The landslides in Pettimudi (2020) and Koottickal (2021) tragically claimed dozens of lives in localized, highly destructive events.
    - **Socio-Economic Trauma:** Beyond immediate casualties, the disasters caused widespread loss of livelihoods in agriculture, fishing and tourism. The economic recovery was hampered by repeated events, leading to long-term financial and psychological trauma for affected families, many of whom are still rebuilding.

- The result of floods and landslides is long term socio-economic and psychological trauma

- **Infrastructure Destruction:** Roads, bridges and homes were destroyed, isolating communities and hindering rescue and relief efforts. The disruption of infrastructure also affected the supply of clean drinking water and electricity, posing significant public health challenges.

4.4.3.5 2024 Wayanad Landslide

- 2024 Wayanad Landslide happened in the early hours of July 30, 2024, was a grim reminder of Kerala's ongoing vulnerability. The landslide was triggered by a short but extremely intense spell of rainfall, again linked by scientists to the warming of the Arabian Sea. The region's unique terrain, with a layer of soil sitting on hard rock, was unable to absorb the water, causing the saturated soil to lose its hold and slide.
  - **Mass Displacement:** Thousands of people from the affected villages of Mundakkai, Chooralmala and Vythiri were displaced and moved to relief camps.
  - **Logistical Challenges:** The destruction of roads and bridges made rescue operations extremely challenging, requiring the deployment of specialised teams from the National Disaster Response Force (NDRF), the Army and other agencies. The scale of the disaster strained resources and highlighted the need for more resilient infrastructure.

- Intense rainfall linked to Arabian Sea warming, which caused saturated soil on the unique terrain to slide

These recent events underscore a new, more dangerous paradigm in Kerala's history of natural disasters, driven by a synergy of environmental neglect and climate change.

4.4.3 Kerala's Adaptation and Mitigation Responses to Natural Disasters

- Kerala moved from a reactive, relief-centric system to a proactive, integrated disaster management strategy

Kerala's strategy for addressing natural disasters has evolved from a reactive, relief-centric approach to a more proactive, integrated system of adaptation and mitigation. This shift was largely triggered by the devastating floods of 2018, which exposed the state's vulnerabilities and necessitated a fundamental change in its disaster management paradigm.

I. Adaptation Strategies:

Adaptation focuses on building the capacity of communities and infrastructure to cope with the effects of climate change that are already inevitable. Kerala has adopted a multi-pronged approach:

1. Institutional and Policy Framework:

- **Kerala State Disaster Management Authority (KSDMA):** KSDMA is the nodal agency for disaster management, responsible for developing policies, plans and guidelines. Its role has expanded from a response-focused body to one that emphasises preparedness, early warning systems and capacity building. KSDMA has developed state and district-level disaster management plans that provide a framework for action.

- Build capacity of communities and infrastructure to cope with inevitable climate impacts

- **Kerala State Action Plan on Climate Change (SAPCC):** The SAPCC (revised in 2022 as SAPCC 2.0) is a crucial policy document that outlines a framework for actions across various sectors. It focuses on enhancing the adaptive capacity and strengthening the resilience of both natural and socio-economic systems. This plan is designed to be inclusive and participatory, ensuring that climate actions are mainstreamed into sectoral schemes and programmes.

2. Infrastructural and Technical Measures:

- **Rebuild Kerala Initiative (RKI):** Launched after the 2018 floods, the RKI is a flagship program that aims to reconstruct the state's infrastructure using a "Build Back Better" (BBB) philosophy. The initiative focuses on building more resilient roads, bridges and housing that can withstand future climate extremes. It has received international support from institutions like the World Bank.

- **Early Warning Systems:** The state has invested in a number of advanced early warning systems. This includes automated weather stations, coastal erosion monitoring and a public alert system. KSDMA provides real-time warnings on rainfall, high waves, flood levels and lightning, which are crucial for timely evacuation and response.

3. Community Based and Social Measures:

- **Community Based Disaster Risk Reduction (CB-DRR):** Recognising the limitations of a top-down approach, the state has empowered local self-governments and communities. Programs are in place to train local volunteers, women's self-help groups (like Kudumbashree) and other community leaders in disaster preparedness, first aid and search and rescue operations.

- Training local volunteers, women's self-help groups and community leaders in disaster preparedness

- **Inclusivity:** The KSDMA has launched projects specifically for vulnerable groups, such as the "Disability and Disaster Risk Reduction" project, which aims to enhance the safety and resilience of people with disabilities.

II. Mitigation Responses: Addressing the Root Causes

Mitigation efforts are aimed at reducing the sources of greenhouse gas (GHG) emissions and enhancing carbon sinks, thereby reducing the severity of climate change itself.

- **Environmental Governance:** Kerala has initiated policies to address environmental degradation, a key contributor to disasters. This includes the implementation of stricter regulations on illegal quarrying and a push for afforestation and ecological restoration projects.

- **Sustainable Development:** Initiatives like the Haritha Kerala Mission promote sustainable agriculture, waste management and the protection of water bodies. The state is also focusing on promoting clean energy and has made significant strides in solar energy expansion.

- Reduce greenhouse gas emissions, environmental degradation and disaster severity

- **Fiscal and Planning Integration:** The state has integrated climate action into its financial planning. The Kerala Environment Budget is a pioneering initiative that earmarks funds for green initiatives and ensures that environmental protection is a central part of the state's fiscal processes, rather than a separate consideration.

Kerala has adopted a comprehensive strategy combining adaptation and mitigation to manage natural disasters. Adaptation focuses on enhancing community resilience, infrastructure and early warning systems, while mitigation addresses environmental degradation, sustainable development and climate action integration. Through institutional frameworks, community participation and proactive planning, Kerala aims to reduce disaster impacts, enhance preparedness and promote long term ecological and socio-economic resilience.

4.4.4 Kerala State Disaster Management Policy: 2010 Approach and Strategy

- KSDM Policy covers a wide range of events that impact human life, property, the environment and the economy

The Kerala State Disaster Management Policy released in June 2010 and it provides a foundational framework aligned with the national Disaster Management Act of 2005.The Kerala State Disaster Management Policy defines a disaster as a serious disruption in the normal functioning of society, caused by natural or human-induced hazards, leading to significant human, material, environmental or economic losses that exceed the coping capacity of the affected community. The concept of disaster under this policy includes a wide range of events, which are classified into five broad categories water and climate-related, geologically related, chemical and nuclear-related, biological and man-made disasters.

4.4.4.1 Classification of Disasters in Kerala

Kerala's Disaster Management Policy classifies disasters into five major categories based on their origin and nature. This classification helps in understanding the type of hazard and planning appropriate response and mitigation strategies.

1. Water and Climate Related Disasters

This category includes disasters that arise due to extreme climatic or weather related events. It covers natural occurrences such as floods, droughts, coastal erosion, thunder and lightning, cyclones and storms. These events are increasingly frequent and intense due to changing climatic patterns and have a direct impact on human life, agriculture and infrastructure in the state.

2. Geologically Related Disasters

These disasters are caused by geological changes or instability in the earth's structure. In Kerala, such disasters include landslides, mudflows, earthquakes, dam failures, tsunamis and dam bursts. These hazards are especially common in hilly regions and areas with unstable soil or unscientific land use practices.

3. Chemical, Industrial and Nuclear-Related Disasters

This category involves emergencies resulting from human error or technical failures in the handling of hazardous materials. Disasters in this group include leakage of hazardous substances during manufacturing, processing, storage or transportation. It also includes accidents involving pesticides, industrial waste and other toxic chemicals, which can have long term environmental and health consequences.

4. Biological Disasters

Biological disasters are caused by the spread of diseases or infestations affecting humans, animals or crops. In Kerala, this includes epidemics, cattle diseases, food poisoning incidents and pest attacks. These disasters can spread rapidly and require coordinated health and agricultural interventions.

5. Man Made Disasters

- Man Made Disasters caused directly or indirectly by human activity

This is the most diverse category and includes disasters caused directly or indirectly by human activity. Examples include forest fires, urban and village fires, festival-related incidents, road, rail and air accidents, boat capsizing, oil spills, major building collapses, serial bomb blasts, illicit liquor tragedies, drug abuse, pollution (water, air, soil), family suicides, environmental disasters, communal riots and stampedes. These incidents reflect a mix of social, infrastructural and behavioural risks and require multi-sectoral disaster response and policy attention.

4.4.4.2 Phased Approach to Disaster Management

The policy recognises three distinct disaster management phases:

1. **Pre-Disaster**: Emphasis is placed on mitigation, prevention, preparedness, capacity-building and regular assessment to reduce future vulnerabilities.

2. **During Disaster**: Focus shifts to crisis coordination, real-time disaster response and maintenance of 24/7 control rooms in key departments like Revenue, Home and Fisheries.

- Phased approach to disaster management is to minimise the impact of disasters on lives, property and livelihoods

3. **Post-Disaster**: Rehabilitation and reconstruction are geared toward enabling swift recovery while minimising risks to the affected communities. This phase also promotes opportunity based reconstruction, gender sensitive rehabilitation and the integration of developmental goals

4.4.4.3 Objectives and Institutional Framework of Kerala State Disaster Management Policy: 2010

The Kerala State Disaster Management Policy 2010 aims to build a strong foundation for disaster management by developing policy structures, legal frameworks and institutional mechanisms. The core objective is to ensure that disasters are managed efficiently and effectively through a preventive approach. The policy encourages research and development-based strategies to identify and mitigate risks before they occur, rather than reacting only after a disaster strikes. It aligns with the National Disaster Management Act of 2005, ensuring that Kerala's disaster response systems are harmonised with national priorities. Furthermore, the policy seeks to mainstream disaster management into all levels of developmental planning and governance, making it a core part of long-term sustainability efforts. Institutional capacity is strengthened through administrative reforms and policy integration, with particular emphasis on empowering women and building resilience at the grassroots level.

- Build robust policy, legal and institutional mechanisms for proactive disaster management

To make the disaster management policy functional on the ground, Kerala has established several control rooms operated by key departments like Revenue and Home, under the supervision of their respective secretaries. These control rooms serve as emergency coordination centers. In addition, the Fisheries Department operates round-the-clock monitoring centers to handle maritime emergencies, particularly important for a coastal state like Kerala. The experience of the 2018 floods significantly influenced Kerala's approach to disaster governance, leading to a greater push for decentralised disaster planning. Local Self Government Institutions (LSGIs) were brought into the core of disaster management. These local bodies have been trained to carry out Participatory Rural Appraisal (PRA) techniques, including vulnerability mapping, resource inventorying and other community-based assessment tools. This participatory and decentralised approach strengthens local preparedness and ensures that disaster risk reduction is tailored to specific regional vulnerabilities.

- Decentralised disaster planning through Local Self Government Institutions (LSGIs)

4.4.5 Early Warning System

Natural hazards pose serious threats to life, property and economic development. Hazards such as tsunamis and earthquakes occur suddenly with little to no warning, while others like droughts develop gradually over time. Both types have the potential to cause extensive damage if not monitored and managed effectively. In this context, Early Warning Systems (EWS) play a vital role in limiting the impact of disasters. An Early Warning System is a coordinated framework of tools, technologies and procedures that collect, analyse and disseminate information about potential hazards. Its primary objective is to trigger timely and effective responses that reduce disaster risks and protect lives, livelihoods and infrastructure.

- Early Warning Systems (EWS) limiting the impact of disasters

The concept of early warning gained international attention in the mid-1980s, with coordinated efforts led by global organisations such as the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) and the United Nations Office for Disaster Risk Reduction (UNDRR), along with national governments. These efforts integrated early warning systems into the broader agendas of Disaster Risk Reduction (DRR), climate change adaptation and humanitarian response.

- EWS facilitate timely and effective responses to minimize disaster risks.

Key milestones in the global evolution of Early Warning Systems include:

- **International Decade for Natural Disaster Reduction (IDNDR),** 1990 – 1999. Promoted awareness and institutional development for disaster risk management, including EWS.
- **The Yokohama Strategy for a Safer World (1994)** – Recognised early warning as a core component of disaster risk reduction.
- **The Hyogo Framework for Action (2005–2015)** – Identified early warning and risk assessment as one of its five priority actions for building disaster resilience.
- **The Sendai Framework for Disaster Risk Reduction (2015–2030)** – Reaffirmed the need to expand multi-hazard early warning systems and make them people centred, timely and inclusive.

- Global frameworks advanced early warning systems

4.4.5.1 Key Functions of Early Warning Systems

1. **Risk Detection and Monitoring:** EWS constantly monitors environmental and atmospheric indicators to detect hazard risks early. Technologies like satellite

imaging, remote sensing and Doppler radars are used.

2. **Forecasting and Prediction:** Based on scientific data, potential hazards are forecasted to estimate when, where and how severe an event may be.

3. **Information Dissemination:** Once a hazard is identified, warning messages are sent through multiple channels, SMS alerts, media, public announcements, etc., to ensure the widest possible reach.

4. **Preparedness and Response Activation:** Local authorities, communities and emergency responders are alerted so that evacuation, rescue and relief measures can be initiated.

- EWS constantly indicators to detect hazard risks early

4.4.5.2 Risk Knowledge in Early Warning Systems

Risk knowledge forms the foundation of any effective Early Warning System (EWS). It involves identifying and understanding the types of hazards a region faces, the vulnerabilities of its population and the potential risks resulting from the interaction between hazards and vulnerabilities. Accurate and up-to-date risk knowledge enables targeted warning messages and disaster preparedness strategies.

- Knowing regional hazards, vulnerabilities and risks

1. **Hazard Mapping:** Hazard mapping is the process of identifying areas that are most likely to be affected by natural hazards. It is essential for planning and preparedness.

- Characteristics such as intensity, frequency and probability of natural hazards like floods and landslides are analysed.
- Flood prone zones and landslide prone areas are identified using historical data and scientific analysis.
- Hazard maps are developed to mark specific geographical areas at risk.
- An integrated hazard map may also be created to assess the interaction of multiple hazards in a region.

- Mapping helps identify at-risk geographical area

This mapping process is coordinated by national-level agencies responsible for economic, demographic and land use data, as per the organisational arrangements outlined in disaster management policies.

2. **Vulnerability Assessment:** Vulnerability assessment involves studying how and why certain communities are more at risk during a disaster.

   - Special focus is given to coastal and hilly regions, which often face higher risks from floods, cyclones and landslides.
   - Assessments consider a wide range of social and economic factors, including:
     - Gender, disability and access to infrastructure,
     - Economic diversity and environmental sensitivity.
   - Historical data and potential future hazard events are used to estimate vulnerabilities.
   - Vulnerable groups or areas, such as coastal communities, are identified and mapped for better disaster response planning.
   - Community-level consultations and expert reviews are included in the process to make the assessments comprehensive and inclusive.

- Assessing why communities are vulnerable to disasters

3. **Use of GIS and Remote Sensing Tools :** Modern technology plays a critical role in understanding and visualising hazard risks.

   - Geographic Information Systems (GIS) are used to collect, store and manage spatial data related to natural hazards and vulnerabilities.
   - A central GIS database or digital library is created to maintain all risk-related information, including hazard maps and vulnerability data.
   - Remote sensing tools (such as satellite imagery) help in observing real-time environmental changes and in updating hazard and vulnerability maps.
   - These tools also assist in developing standardised, shareable data that can be used at local, national and international levels.
   - Maintenance plans are put in place to ensure this data re-

- Utilising GIS and remote sensing for disaster risk data collection and analysis mains current, accurate and accessible to all stakeholders, including government departments and the public.

- Understanding risk is fundamental to building a strong Early Warning System

Risk knowledge-through detailed hazard mapping, inclusive vulnerability assessments and the use of advanced GIS and remote sensing technologies is essential for building a robust Early Warning System. It ensures that warnings are based on solid evidence, enabling timely and targeted responses that save lives and reduce damage.

4.4.6 The Role of Maps in Kerala's Disaster Management

Kerala's early warning system (EWS) has evolved significantly in the wake of recent major disasters, particularly the floods and landslides since 2018. At the heart of this system is the extensive use of maps and geospatial technologies, which provide the visual and analytical foundation for all stages of disaster management.

1. The Foundational Role of Hazard and Vulnerability Mapping

Maps are not just for real-time alerts; they are the bedrock of Kerala's preparedness efforts. The Kerala State Disaster Management Authority (KSDMA), in collaboration with national and international agencies, has created a series of detailed maps that identify and quantify risks across the state.

- **Flood Hazard Maps:** These maps, prepared for each district, delineate areas susceptible to flooding based on historical data and future climate change scenarios. They are categorised by flood probability, showing areas at risk from 10 year, 25 year, 50 year and even 500 year flood events. This data is critical for land-use planning, with a focus on preventing new construction in high risk zones.

- Maps identify and quantify Kerala's disaster risks

- **Landslide Susceptibility Maps:** Created by the Geological Survey of India (GSI) and other agencies like the National Centre for Earth Science Studies (NCESS), these maps identify zones with varying degrees of landslide risk. They are essential for warning communities living in hilly regions, guiding infrastructure projects and informing evacuation protocols.

- **Other Hazard Maps:** The KSDMA also maintains maps for other threats, including lightning incidence, coastal hazard susceptibility, earthquake-prone areas and even locations of major industrial and festival-related hazards. This provides a holistic, multi-hazard view of the state's risks.

2. Maps in Action: Real-Time Monitoring and Alert Dissemination

The real power of maps lies in their integration with real-time data to provide actionable warnings. The state has developed several platforms that use this capability.

- **The Monsoon Dashboard:** This is the primary public interface for the early warning system during the monsoon season. It is a GIS-based platform that overlays real-time data onto maps of the state. It visualises:
  - **Rainfall Levels:** Colour-coded districts or regions indicate the level of rainfall and associated alerts (Green, Yellow orange, Red).
  - **Reservoir Levels:** The dashboard shows the current water levels of major dams, allowing authorities and the public to monitor their status and anticipate the need for controlled water releases.
  - **Flood Inundation:** In-house flood models generate maps showing predicted areas of inundation based on rainfall and reservoir data, which is vital for evacuation planning.
- **Slope Instability Predictor-Kerala (SLIP-K):** This is a groundbreaking landslide early warning app developed by Kerala University. It uses a combination of geospatial mapping, data from automatic weather stations and rainfall thresholds to provide near real-time alerts. Users can tag specific locations on the map to receive tailored warnings every 15 minutes, allowing for immediate on-the-ground action.

- SLIP-K uses satellite imagery and geospatial data to predict landslides and floods in areas

3. The Role of Participatory Mapping (PGIS)

Kerala has pioneered the use of Participatory GIS (PGIS) to enhance the accuracy and relevance of its maps. During the 2018 floods, the lack of real time satellite imagery for flood peak hours was a challenge. To address this, the KSDMA and local volunteers used a Participatory GIS approach, collecting post-flood data from affected people and integrating that hyper-local information into the maps. This process leveraged

- Volunteers and locals create accurate flood maps community knowledge to create more accurate flood inundation maps, which are now used for future planning.

- Maps in Kerala are dynamic, data driven tools

Maps are not merely static images in Kerala's disaster management system; they are dynamic, data driven tools that serve multiple functions. They transform raw data on hazards and vulnerabilities into a clear visual language, enabling administrators and the public to understand risks, make informed decisions and coordinate responses effectively. By integrating hazard mapping with real-time data platforms and community participation, Kerala's early warning system is a testament to the state's proactive and technologically advanced approach to building a climate resilient society.

4.4.6 Local Self-Government Disaster Management Plans

- LSG DM Plan to prevent, prepare for, respond to and recover from disasters

A Local Self-Government Disaster Management Plan (LSG DM Plan) is a comprehensive, area specific strategy developed by Panchayats, Municipalities and Corporations in Kerala to prevent, prepare for, respond to and recover from disasters. These plans aim to build disaster resilience at the grassroots level by integrating Disaster Risk Reduction (DRR) strategies into routine local development activities. They are formulated under the guidance of the Kerala State Disaster Management Authority (KSDMA) and are aligned with the provisions of the Disaster Management Act, 2005.

- Community project empowers locals for disaster preparedness

As part of the Rebuild Kerala Development Programme (RKDP), the government launched the flagship initiative "Nammal Namukkay" (We for Us) to enhance disaster preparedness and promote community resilience. This project empowered Local Self Governments (LSGs) to create DM Plans that reflect their specific vulnerabilities and needs. It included structured training programmes for local officials and supported the establishment of Risk Labs equipped with GIS based mapping tools for scientific risk assessment and planning. The initiative encouraged a culture of preparedness and proactive disaster management across communities.

The preparation of LSG DM Plans is a collaborative process, involving support from multiple institutions. District Planning Offices oversee and coordinate the planning process at the local level. KSEOC (Kerala State Emergency Operations Centre) and KSDMA provide technical support, policy direction

• KILA plays a key role in capacity building by conducting training for local functionaries

and expertise. The Kerala Institute of Local Administration (KILA) plays a key role in capacity building by conducting training for local functionaries. To ensure quality and consistency in plan development and review, the State has appointed 14 Disaster Management Plan Coordinators, one in each district, who assist LSGs throughout the process. Overall, these plans empower local bodies to take ownership of disaster preparedness through scientific planning and active community participation. By fostering a bottom-up approach, the initiative ensures that disaster management strategies are both locally relevant and sustainable.

4.4.6.1 Key Components of an LSG DM Plan

1. **Hazard, Vulnerability and Risk Assessment (HVRA):** This component involves identifying and analysing the local hazards such as floods, landslides, droughts, cyclones and other region-specific threats. It includes vulnerability mapping of critical populations (like children, elderly, disabled persons) and vital infrastructure (schools, hospitals, roads, etc.), which helps in understanding the potential impact zones and planning accordingly.

2. **Resource Inventory:** A comprehensive inventory is developed listing all local resources that can be mobilised during a disaster. This includes shelters, health centres, drinking water sources, emergency vehicles, machinery, volunteers and other essential logistics available within the LSG.

3. **Preparedness and Response Mechanism:** This section defines the roles and responsibilities of local officials, elected representatives, community leaders and volunteers in managing disaster situations. It also includes emergency contact numbers, formation of rapid response teams and the formulation of communication protocols during emergencies.

4. **Mitigation Measures:** LSGs propose both structural and non-structural measures to reduce disaster risk. Structural measures may include the construction or strengthening of embankments, drainage systems and safe shelters, while non-structural measures involve awareness campaigns, capacity-building programs and the development of early warning systems to alert communities.

5. **Disaster Response Plan:** The plan outlines clear evacuation routes, procedures for managing temporary shelters and the distribution of relief materials. It ensures coordination among different stakeholders and identifies staging areas for relief operations to be carried out smoothly and efficiently.

6. **Recovery and Rehabilitation Strategy:** This part of the plan focuses on restoring livelihoods, rebuilding damaged infrastructure and providing emotional and financial support to affected families. It includes steps for long-term rehabilitation and social protection of the most vulnerable sections of society.

- LSGs develop multi-faceted disaster management plans

7. **Institutional Mechanism:** To oversee the implementation of the LSG DM Plan, Disaster Management Committees are formed at both the ward and panchayat/municipality levels. These committees include elected representatives, officials, experts and community members who work together to coordinate disaster preparedness and response efforts.

8. **Monitoring and Review:** The effectiveness of the LSG DM Plan depends on regular monitoring, updating and mock drills. Periodic evaluations help to identify gaps, incorporate new information and ensure that the plan remains practical, updated and ready for any unforeseen emergencies.

- Local participation creates integrated, community-owned plans

The formulation of these plans is a highly participatory process involving ward-level committees and local resource groups. The final plans are then submitted to the District Planning Committees for approval, ensuring that local-level actions are integrated into the broader district and state-level disaster management frameworks. The successful implementation of these plans is a crucial step toward building a truly resilient Kerala by empowering communities to take ownership of their safety and long-term development.

Summarised Overview

Kerala is endowed with remarkable biodiversity across its forests, marine ecosystems, agricultural lands and floral resources. However, various environmental threats are undermining the health and sustainability of these ecosystems. Climate change and the rising risk of zoonotic diseases further intensify these challenges. Geographically, Kerala is situated between the Arabian Sea and the Western Ghats, making it highly vulnerable to natural hazards such as floods, landslides, droughts and coastal erosion. The state's high population density-860 persons per square kilometer-adds to its overall exposure and risk during such disasters. In 2024, a devastating landslide struck the Wayanad district, caused by extreme rainfall of 372 mm recorded within 24 hours. In response to such environmental and climate-related challenges, the Government of Kerala has implemented several adaptation and mitigation measures.

The State Action Plan on Climate Change (SAPCC) has been integrated into the state's broader development planning framework to ensure long-term resilience. The Green Protocol encourages sustainable practices by banning plastics and promoting eco-friendly alternatives. To mitigate the effects of floods and landslides, the state has improved drainage systems, constructed small dams, conducted hazard mapping and launched the Rebuild Kerala Initiative to restore infrastructure with resilience at its core.

Kerala is also promoting renewable energy by encouraging the installation of solar panels in schools, homes and public buildings and by supporting biogas plants through ANERT. In the agricultural sector, the state advances climate-smart practices such as organic farming, cultivation of drought-resistant crops and efficient water conservation methods. To protect its vulnerable 590 km-long coastline, Kerala enforces Integrated Coastal Zone Management (ICZM), restores mangroves and implements Coastal Regulation Zone (CRZ) norms. Community involvement is a key strategy in Kerala's disaster management efforts. The government promotes Community-Based Disaster Risk Reduction (CBDRR) through training, awareness campaigns and the active participation of Local Self Governments (LSGs). Additionally, the state employs technological tools like the Monsoon Dashboard, real-time weather forecasting and early warning systems to provide timely alerts and improve disaster preparedness. These combined efforts reflect Kerala's comprehensive and inclusive approach to managing environmental risks and building resilience against future climate-related disasters.

Assignments

1. Explain the biodiversity richness of Kerala and analyse the key threats to its forest, marine, agricultural and floral ecosystems.

2. Examine the 2024 Wayanad landslide in terms of its causes, impacts and lessons learned.

3. Outline the key features of the Kerala State Disaster Management Policy (DMP) 2010. How does it align with the Disaster Management Act, 2005?

4. What is an Early Warning System (EWS)? Describe its components and evaluate its significance in the context of Kerala.

5. What are the key components of a Local Self-Government Disaster Management Plan (LSG DM Plan)?

Reference

1. Government of Kerala. (2023). *Economic Review 2023.* State Planning Board, Thiruvananthapuram.

2. Government of Kerala. (2024). *Economic Review 2024.* State Planning Board, Thiruvananthapuram.

Suggested Reading

1. Prakash, B. A. (Ed.). (2004). *Kerala's Economic Development: Performance and Problems in the Post-liberalisation Period*. Sage Publications.

2. Rajasenan, D., &G. De Groot (Eds.). (2005). *Kerala Economy: Trajectories, Challenges and Implications*. Cochin University of Science and Technology (CUSAT).

3. Kurian, M., & R. John (Eds.). (2014). *Kerala Economy and its Emerging Issues*. National Book Stall.

Space for Learner Engagement for Objective Questions

Learners are encouraged to develop objective questions based on the content in the paragraph as a sign of their comprehension of the content. The Learners may reflect on the recap bullets and relate their understanding with the narrative in order to frame objective questions from the given text. The University expects that 1 - 2 questions are developed for each paragraph. The space given below can be used for listing the questions.

MODEL QUESTION PAPER SETS

SREENARAYANAGURU OPEN UNIVERSITY
MODEL QUESTION PAPER I

QP CODE: .... **Reg. No : ....**

Name: ....

FOURTH SEMESTER - MA ECONOMICS EXAMINATION
DISCIPLINE CORE - M23EC12DC
KERALA ECONOMY
(CBCS - PG)
2023-24 - Admission Onwards

Time: 3 Hours **Max. Marks: 70**

Section A
Objective Type Questions
Answer any 10 questions. Each question carries 1 mark

(10 x1=10 Marks)

1. State the aim of the Kerala Knowledge Economy Mission.
2. Define Parity Index.
3. What was Kerala's poverty ratio in 1960-61 according to Dandekar and Rath?
4. Identify the key social indicator prioritised under the Kerala Model.
5. Define skills absorption gap in Kerala's economy?
6. What was Kerala's CPI-based inflation rate in 2024?
7. Name one initiative launched to improve health infrastructure in Kerala.
8. Name the district with the highest literacy rate in Kerala as per the 2011 Census.
9. What was Kerala's youth unemployment rate compared to the national average in 2023-24?
10. Which sector's share declined steadily in Kerala between 1960 and 1980?
11. Compare Kerala's life expectancy with the national average.
12. What service is offered through Kerala's new K Store?
13. Define WPI.
14. Identify the government body that funds major infrastructure projects in Kerala.
15. State the current GER in higher education for Kerala.

Section B
Very Short Questions
Answer any 5 questions. Each question carries 2 marks

(5X2=10 Marks)

16. Distinguish between micro and small industries.

17. State the significance of per capita income as an indicator of growth.
18. Define Human Development Index.
19. What is meant by decentralised planning?
20. What is an Early Warning System ?
21. State the meaning of inflation.
22. What has contributed to the growth of Kerala's startup ecosystem?
23. What is meant by fiscal federalism?
24. Define renewable energy sources.
25. State any two objectives of the Fifteenth Finance Commission.

Section C
Short Answer
Answer any 5 questions. Each question carries 4 marks

(5X4=20 Marks)

26. Explain the challenges of migration and reverse migration.
27. Trace the structural transformation of Kerala's economy since 1956.
28. Discuss the role of Kudumbashree with regard to social development.
29. Examine the significance of literacy in the state's development.
30. Discuss the role of the IT sector in the process of industrialisation.
31. Elucidate the causes of fiscal stress faced by the state.
32. Assess the achievements of Kerala's health sector.
33. Examine the role of decentralisation in Kerala's governance.

Section D
Long Answer/Essay Question
Answer any 3 questions. Each question carries 10 marks

(3x10=30 Marks)

34. Critically evaluate the Kerala Model of Development.
35. Analyse the fiscal crisis of Kerala and suggest measures to overcome it.
36. Evaluate the role of agriculture in Kerala's development.
37. Discuss the phenomenon of brain drain and brain gain in Kerala.
38. Critically examine Centre-State financial relations in Kerala.
39. Evaluate Kerala's environmental challenges in the context of biodiversity loss.

SREENARAYANAGURU OPEN UNIVERSITY
MODEL QUESTION PAPER II

QP CODE: .... **Reg. No : ....**

Name: ....

FOURTH SEMESTER - MA ECONOMICS EXAMINATION
DISCIPLINE CORE- M23EC12DC
KERALA ECONOMY
(CBCS - PG)
2023-24 - Admission Onwards

Time: 3 Hours **Max. Marks: 70**

Section A
Objective Type Questions
Answer any 10 questions. Each question carries 1 mark

(10 x1=10 Marks)

1. Which regions were merged in 1956 to form Kerala?
2. State Kerala's position in literacy among Indian states.
3. What is Kerala's infant mortality rate compared with India's?
4. In which year did the first communist ministry assume office in Kerala?
5. Identify the dominant types of industries in Kerala's industrial sector during the mid-1950s.
6. What is the purpose of Kerala's mobile ration shop scheme?
7. Name the state government policy that provides affordable housing to vulnerable groups.
8. Identify the type of industry that dominates Kerala's industrial structure today.
9. What event caused Kerala's NSDP growth rate to decline significantly in 2008-09?
10. Which programme in Kerala promotes gender-neutral welfare?
11. Why is Kerala's welfare expenditure model under fiscal pressure?
12. Give one social welfare programme that reduced dropout rates in Kerala schools.
13. Where is Technopark, a major IT hub, located?
14. Which issue continues to affect the fiscal autonomy of Kerala's local bodies?
15. Name the flagship programme for public health care in Kerala.

Section B
Very Short Questions
Answer any 5 questions. Each question carries 2 marks

(5X2=10 Marks)

16. Distinguish between revenue expenditure and capital expenditure?

17. Define fiscal responsibility in state finance.
18. List two disaster mitigation measures introduced in Kerala.
19. State the role of the Finance Commission in resource allocation.
20. Define social infrastructure.
21. What is meant by vertical devolution?
22. What is the main objective of the Kerala Knowledge Economy Mission?
23. Why is infrastructure important for Kerala's industrial growth?
24. State the importance of GSDP as an economic indicator.
25. State the significance of Kerala's People's Plan Campaign (PPC)?

Section C
Short Answer
Answer any 5 questions. Each question carries 4 marks

(5X4=20 Marks)

26. Explain the trend of Kerala's per capita income.
27. Compare Kerala's HDI with other Indian states.
28. Discuss the revenue and expenditure trends of Kerala.
29. Write a note on Kerala Start-Up Mission.
30. Analyse Centre-State fiscal transfers with reference to Kerala.
31. Discuss the biodiversity challenges faced by Kerala.
32. Assess the impact of biotechnology in Kerala's industrial sector.
33. Trace the changes in cropping patterns of Kerala.

Section D
Long Answer/Essay Question
Answer any 3 questions. Each question carries 10 marks

(3X10=30 Marks)

34. Evaluate the role of land reforms in Kerala's socio-economic development.
35. Critically discuss unemployment and poverty issues faced by Kerala.
36. Examine the impact of GST on Kerala's tax revenue.
37. Critically analyse the causes and consequences of lopsided development in Kerala.
38. Assess Kerala's disaster management policies with reference to DMP 2010.
39. Discuss the importance of sunrise industries with reference to Kerala.

സർവ്വകലാശാലാഗീതം

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DON'T LET IT BE TOO LATE

SAY NO TO DRUGS

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