REGIONAL DISPARITIES IN SCHEDULED CASTE DEVELOPMENT IN KERALA: Evidence from Allocation and Expenditure Patterns (2016-17 to 2025-26)

Major project submitted to St. Teresa's College (Autonomous), Ernakulam in Partial Fulfillment of the requirement for the Award of PG of

INTEGRATED M.A PROGRAMME IN SOCIAL SCIENCES-ECONOMICS

BY

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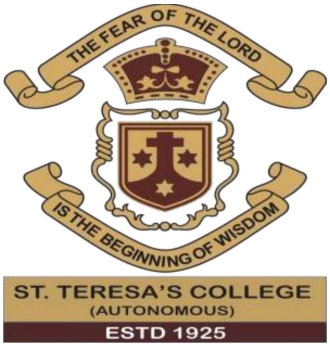

DEPARTMENT OF ECONOMICS AND CENTER FOR RESEARCH

ST. TERESA'S COLLEGE (AUTONOMOUS), ERNAKULAM

(Affiliated to Mahatma Gandhi University, Kottayam)

March 2026

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ACKNOWLEDGEMENT

I would like to extend my sincere appreciation to everyone who contributed to the successful completion of this project. First and foremost, I express my deep gratitude to the Almighty for bestowing upon me the wisdom, strength, and resilience that guided me throughout this research and my academic journey.

I would like to express my sincere gratitude to Dr. Monish Jose, Assistant Professor, Kerala Institute of Local Administration (KILA), for his invaluable guidance, continuous support, and encouragement throughout the course of this project. His expertise, patience, and insightful suggestions were instrumental in overcoming challenges and successfully completing this study.

I also extend my heartfelt thanks to Dr. Anupa Jacob, Head of the Department, and all the faculty members of the Department of Economics for providing the necessary academic support, resources, and a conductive environment for carrying out this research work.

Special thanks to Mr. Nidhin Krishna K.R, State Project Coordinator, for his timely assistance and support, which contributed to the smooth execution of this project.

Finally, I express my sincere gratitude to my family and friends for their constant encouragement, understanding, and moral support throughout the completion of this project.

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LIST OF ABBREVIATIONS

- SC- SCHEDULED CASTE
- SCSP- SCHEDULED CASTE SUB PLAN
- SCP- SCHEDULED CASTE POPULATION
- BN-BILLION
- M-MILLION

CHAPTER-1

INTRODUCTION

1. INTRODUCTION

1.1 Background of the study

The Scheduled Castes (SCs) have been one of the historically disadvantaged and socially marginalized groups in Indian society. Their contemporary socio-economic condition is rooted in the history of caste exclusion which denied them access to the productive factors like education, skilled employment, land, and participation in socio-political decision-making processes, resulting in entrenched poverty, lack of asset formation, occupational immobility and segregation that reinforced intergenerational inequalities that necessitated prolonged state intervention to achieve greater social justice and to ensure that development opportunities were made available equally for all. In aware of these historical mistakes, the Indian Constitution contains a set of guarantees that prevent discrimination against the SCs and ensures their future socioeconomic advancement. The institutional responses were significant in setting the disadvantages based on caste included legal provisions that abolished untouchability, affirmative action policies in education and government employment, and many specific programs of welfare provision. Over the years, development planning in India increasingly emphasized the redistributive role of public expenditure as an instrument of structural correction and for expanding basic service access and livelihood opportunities to the weaker groups.

A key fiscal approach within this wider policy approach is the Scheduled Caste Sub Plan (SCSP) that was proposed in the Fifth Five-Year Plan, which ensures that the development funds are channelled towards Scheduled Caste welfare. SCP approach includes targeted interventions in regular planning practices with emphasis on investment in sectors such as housing, education, health, livelihood promotion, imfrastructure development, and social security. The main logic of the SCP framework is that any planned public spending can serve as a correlational tool by directing the resources to the historically disadvantaged cohorts and inclusive and balanced growth.

The start of Kerala provides an important context to examine the application of SCP because of its unique development trajectory and institutional commitment to the principles of democratic decentralization, the state has posted impressive human development indicators in literacy, health,

and welfare while simultaneously embracing participatory planning that empowers local governments through the authority of local governments. The decentralization initiatives, especially the People Plan Campaign, had a major impact on improving the local self-government institutions in development planning, financial allocation and program implementation.

Grama panchayats were given greater financial and administrative roles so that local needs of development and the more targeted welfare intervention for the marginalized groups, including the SCs, who constitute 9.10 percent of the total population of Kerala as per the census 2011. But are unevenly distributed across districts and local self-government institutions. This skewed demographic composition has very important implications for development planning. Because the variation in population density affects demand for particular types of welfare programs and allocation of SCP resources across regions. Grama panchayats play a key role in translating policy directives into actual development spending and so are a unit of importance in understanding how SCP operates at the fiscal and planning levels. There is a policy focus and funding continues to be channeled within the SCP framework and even the distribution of funds among various sectors, there are concerns about differences in the allocation levels, allocation and utilization and sectoral priorities across local bodies which can be attributed to the differences in the institutional capacity, planning efficiency, local development priorities and administrative practices.

There are also differences in the utilization of the allocation of funds to some sectors and some funds allocated are not completely utilized; in some cases the funds are concentrated in a few sectors and these are indicative of differences in local planning and implementation capacity. This also indicates that a systematic study of the distribution of SCP expenditure 4 and trends is required to identify the extent of fiscal divergence in the decentralized planning system of Kerala. A sector-wise examination of SCP expenditure can assist in identifying developmental priorities and resource allocation patterns at the grassroots level. Sub sector expenditures can be grouped under broader development sectors. Providing an insight into how resources are divided among competing developmental demands and sectoral priorities vary across panchayats.

By examining the trends inn terms of allocation and expenditure, it is possible to identify fluctuations, growth, and imbalances in SCP expenditure and so to capture how the policy priorities, performance of the institution and planning behaviour have shifted over time. In this study we attempts to analyze the allocation and expenditure variations under the SCP framework

in a smaple of grama panchayats in Kerala using a financial and comparative approach to look at the differences in the level of allocation, distribution and utilization of the SC funds in sectors.

The sub sector expenditure has been classified under the broader development sectors to facilitate meaningful sectoral comparison and the graphical analysis and dashboard analysis have been used to reflect the trends in allocation and expenditure over time during the study period. Attempting to correlate all these fiscal patterns with the SC distribution of the Census 2011. The study will seek to provide deeper answer to the planning differences, sectoral priorities and expenditure disparities on the SCP framework on the ground.

1.2 Research Gap

The Scheduled Caste development literature in India is more concerned with the socio-economic status, welfare policy and demographics of SCs. It is reported in Kerala that the space distribution and inability to sustain development pose a challenge even in situations where human development in general is higher. The financial aspect of the scheduled caste development is not properly investigated. Very little empirical studies are carried out on region wise allocation and expenditure pattern especially on the population of scheduled caste. The research never looks into the question of how the financial resources are distributed or utilized evenly or efficiently within regions. This lack of regional fiscal analysis puts a big gap and this is where the current study aims to fill this gap.

1.3 Statement of the Problem

Though the Scheduled Caste Sub Plan is designed based on proportional allocation of development funds depending upon the population of the Scheduled Caste, as is the case in Kerala, allocation and expenditure patterns show considerable interregional differences. These differences become more apparent at the local government level where the planning capacity, administration and development priorities vary among the grama panchayats. There are also variation in the extent of SC allocation, intersectoral expenditure patterns and in the level at which funds allocated are utilized. Sometimes resulting in increased allocations not leading to equivalent spending, lack of

uniform attention given to some sector depending on the region which leads to questioning of the consistency and efficiency of SC implementation in the decentralized planning system.

There are no uniform reporting methods and systematic monitoring systems to ascertain the level to which SC spending is in line with demographic realities. To this end the Census 2011 may provide information about the geographic distribution of the scheduled caste. The research question is to test the 6differences in SC and spending patterns in Kerala and compare these differences with the scheduled caste as per the census 2011.

1.4 Objectives of the Study

1. To examine the differences in SCP budget allocation and expenditure among selected Grama Panchayats in Kerala

2. To classify sub-sectors under broader development sectors and analyze their allocation and expenditure patterns across Panchayats.

3. To identify time-wise trends in SCP allocation and expenditure using graphical and dashboard-based analytical tools.

1.5 Scope of the Study

The research paper is aimed at examining the fiscal aspects of the Scheduled Caste development based on the Scheduled Caste Sub Plan in the context of decentralized planning in Kerala. The comparison is made using the scheduled caste population according to the census 2011 and the year under analysis is 2016-17 to 2025-26 as a way of knowing the recent trends of the fiscal on decentralized planning. The state is divided into North, Central, and South for analytical purposes because of the district level clustering of the districts and the inter-regional compparisons.

The research limits to financial allocation and real spending on key development areas in references to the scheduled caste well being and real expenditure in key development areas for the well-being of the scheduled caste and does not consider physical performance, administrative effectiveness and effects at the beneficiary levels. The evaluation is based on secondary data in the official government budget reports and other sources. The research is restricted to the regional

variations in financial allocation and expenditure on scheduled caste development in Kerala during the selected period.

1.6 Methodology of the Study

The study adopts descriptive, analytical and inferential research design to investigate the regional disparities in the sector-wise allocation and expenditure in the development of the Scheduled Caste in Kerala. The goal is to examine the changes in sector in sector wise allocation and expenditure of the various regions of the state between the years 2016-17 to 2025-26.

The research will be grounded in secondary data which will be obtained through official sources of data provided by the government such as scheduled caste development departments reports, state budget documents and other sources like Sulekha portal. The time frame of the study is ten financial years (2016-17 to 2025-26).

Kerala is categorized into three regions as North, Central and South regions and these regions are grouped accorded to the grouping of districts. These regional strata are divided into 20 grama panchayats with concentration of scheduled Caste population that are selected as samples using systematic random sampling. The choice of samples and the division by the regions makes it possible to make a comparative assessment of the patterns of distributionand use of special disparities.

The main variables that were used in the investigation are the funds allocated by the segment. The actual usage of funds, the percentage usage, the share of funds in region and the annual trends. The analysis will be on the imbalance on the scheduled caste development programme in production, infrastructure and service sectors.

Data analysis is performed through both the graphical and statistical analysis. Graphical representation is done through power BI to establish spatial and temporal analysis of allocation and expenditure. The statistical significance od the regional differences in fund allocation and expenditure are put to test by conducting statistical tests (paired sample t-test) on Microsoft Excel.

1.7 Hypothesis of the Study

1. Hypothesis for Regional Analysis (paired sample t-test)

Null Hypothesis (H_0):

There is no significant difference in the mean fund allocation/utilization between the two regions.

Alternative Hypothesis (H_1):

There is a significant difference in the mean fund allocation/utilization between the two regions.

2. Hypothesis for Sectoral Analysis (paired sample t-test)

Null Hypothesis (H_0):

There is no significant difference in the mean fund allocation (expenditure) between the two sectors.

Alternative Hypothesis (H_1):

There is significant difference in the mean fund allocation (or expenditure) between the two sectors.

1.8 Limitations of the Study

The study includes the following limitations:

1. The study will be based on the secondary data in the form of the official government portal (Sulekha).

2. The validity of the results can be defined by the credibility and exhaustiveness of the data available in print.

3. Only 20 local bodies are selected out of the number of local bodies in Kerala and this narrows down the overall representativeness of the study.

4. The analysis also emphasizes the allocation and expenditure patterns only but fails to include the political, institutional, and administrative aspects that could interfere with the distribution and use of funds.

1.9 Chapter Scheme

The study is arranged in six chapters. A brief description of the content of each chapter is given below:

Chapter 1: The first includes the introduction, statement of the research problem, objectives of the study, methodology, and limitations of the study

Chapter 2: The second chapter contains the review of literature.

Chapter 3: The third chapter gives a detailed account of the history of the Scheduled Caste, SCSP functioning, and operations

Chapter 4: The fourth chapter comprises the analysis and hypothesis of the study.

Chapter 5: The fifth chapter includes the findings and conclusion, and recommendations.

CHAPTER-2

REVIEW OF LITERATURE

2. REVIEW OF LITERATURE

Subbaravu, C., Francis, D., and K.S. Chalam (2000), in the Development of Weaker Sections: Essays in Honour of Prof. In this chapter, k.s. chalam discusses the question of development among the weaker sections in india, particularly in the scheduled caste group, and how the historical exclusion based on caste has resulted inlong-term inequalities in the way people own land, perform jobs, acquire an education, and access government resources. The book notes that despite decades of five year plan and welfare assistance, scs remain disproportionately among the rural poor and the landless rural agricultural workers, and the contribution anlyse loopholes in theimplementation of growth. The book undercores the need for structuralreforms, selective state intervention, and inclusive planning to achieve ubstantive social justice and socio-economic empowerment of scs.

Varghese, D.G., and Jaimol (2022), in the Scheduled Caste and Scheduled Tribe Sub Plan outlay on social welfare and poverty eradication. They discuss the allocation of SCSP/TSP funds in Kerala and assess the impact of such budgetary expenditures on allieviating poverty in the Scheduled caste groups. The trends in the planned allocation and expenditure incurred and the gaps in fund utilization. In the consistent financial investment in kerala, there is an uneven developmental contribution. These limitations include administrative and monitoring problems. The paper argues that without proper targeting and accountability the allocation will remain imcomplete and there is a need for more outcome-based planning that will improve the socio economic status of the scheduled castes.

Ellis, F., and Freeman, H. A. (2004), in the article Rural Livelihoods and Poverty Reduction Policies argues the poor households minimize risk and vulnerability by using diverse income sources and that land, credit, non-farm jobs are critical to improve living standards in rural areas. It highlights that there will be no end to poverty until institutional structures are enabled and how public policy impacts livelihood opportunities and outcomes. The analysis is relevant for the economically backward populaton that is scheduled castes which face structural issues in the rural economies. In this study the authors provide two strategies for poverty alleviation that are inclusive growth and diversification. The authors discuss that the rural rural poverty and social exclusion can be interpreted in a policy based context.

Estivill, J (2003), in Concepts and Strategies to Fight Social Exclusion: An Overview, describes that social exclusion is a multinational phenomenon that includes economic deprivation, lack of participation in social exclusion and poverty by highlighting structural barriers and marginalization. It looks at policy measures taken in order to bring about social inclusion in employment and social protection and stresses the need to resolve inequality through integration and rights based approaches. This discussion pertaines to the group that is socially excluded like the SCs and calls for institutional reform and policy coordination. So the work can provide a conceptual framework for an inclusive development plan.

Pillai, N. V. (2007), in the study report Social Protection in Rural India, discusses the form and efficiency of social protection programs in rural india and examines some of the key welfare programs that will reduce poverty andvulnerability of underprivileged communities, food security, pension schemes and role of employment programs to support rural households and the marginalized groups means the scheduled castes. They are heavily dependent upon social assistance provided by the state. It identifies implementation, target and delivery mechanisms gap that limit the effect of the policies. The study also discusses other issues of awareness and access among beneficiaries. Pillai says that the institutional capacity and systems of monitoring need to be built. So the study of this highlights the need for more comprehensive and coordinated social protection to ensure rural livelihood security.

Narayana, D. (2005), in Institutional Change and its Impact on the Poor and Excluded: The Indian Decentralization Experience, investigates how the Indian decentralization reforms have impacted marginalized groups. This paper claims that the local self-government has expanded participatory frontiers of disadvantaged communities, such as the Scheduled Castes. It focuses on enhanced planning, distribution of funds, and responsibility at the grassroots level. There are still enduring social strata and elite control that are restricting complete inclusion. The paper emphasizes that the institutional reform should be integrated with social empowerment. In general, the article introduces the concept of decentralization as a significant yet unfulfilled channel to inclusive development.

Sivanandan, P. (2023) in Lives of the Scattered Margins: Scheduled Castes, 25 Years of Decentralization in Kerala: Impact on Scheduled Castes investigates socio-economic changes that occurred in the state of Kerala after 25 years of decentralized governance, which applied to the

Scheduled Castes. The paper examines the role of the local self-government institutions in solving the problems of poverty, housing, education, and livelihood among the SC communities. It attracts to the field of welfare outreach, betterment and participatory planning. But even the work indicates the persistence of the inequalities in land ownership, occupation, and social mobility. The author covers the loopholes in the good use of SCSP funds on the local level. It highlights how caste marginalization has continued even with the attempts of policies. The paper contends that decentralization has led to the opportunity but not to structural inequalities reforms. In general, the book offers a critical analysis of the effects of decentralization on the Scheduled Castes in Kerala.

Sasi, C., Francis, K. M., and Sabu (2021), in their doctoral dissertation, Human Capital Formation of Scheduled Caste in Kerala: Problems and Prospects in Education, analyze the educational situation of the Scheduled Castes in Kerala within a human capital formation. The research evaluates the levels of enrollment, retention, and achievement of SC students in the various levels of education. It points out systematic obstacles like money, social discrimination, and a lack of access to good institutions. The dissertation can show the shortcomings in participation and skill development in higher education. It also judges on the effectiveness of the scholarship and the state support schemes. The authors point out the importance of education in enhancing the socio-economic mobility of SC communities. The paper talks about the structural issues and opportunities that are emerging. All in all, it highlights the necessity of specific educational policy development in order to enhance human capital development among the Scheduled Castes in Kerala.

Mukherjee, S., Haddad, S., and Narayana, D. (2011), in their article Social Class Related Inequalities in Household Health Expenditure and Economic Burden: Evidence in Kerala, South India, examine the differences in health spending by various classes of the population. The research looks into the economic burden of household health spending that has diverse economic costs, especially to the poorer and marginalized people. Based on the empirical evidence in Kerala, the authors discover that the lower social classes are disproportionately strained financially as compared to the upper social classes. The article points to the susceptibility of poor regions, such as the Scheduled Castes, to disastrous spending on health. It talks about disparities in the provision of quality healthcare and financial safeguards. The report focuses on the importance of having more robust public health systems and fair financing systems. All in all, it illustrates the way in

which disparities in social classes are transformed into disparities in health and economic outcomes.

Bhardwaj, A. (2002), in Welfare of Scheduled Castes in India: Gandhi Social Approach: Ambedkar Political Approach, considers the development of welfare policy on Scheduled Castes in India. The book compares the social reformist view of Mahatma Gandhi with that of the political and constitutional empowerment strategy of B. R. Ambedkar. It talks about how constitutional protection, reservation, and protection laws can be used to curb such discrimination based on caste. The author examines some of the government programs targeted at education, employment, and socio-economic empowerment of SC communities. The article has given significance to the philosophical and policy underpinnings of affirmative action in India. It is also an assessment of the success and shortcomings of welfare programs to attain substantive equality. The book generally gives a holistic view of ideological argument and institutional action towards Scheduled Caste welfare in India.

Oommen, Wallace, and Muwonge (2017) examine the panchayat finance in India based on evidence of Grama Panchayats in Kerala. To determine financial independence on the local level, the analysis focuses on the sources of revenue, expenditure patterns, and fiscal transfers. It concludes that Panchayats are still heavily reliant on transfers of funds at the higher level and cannot utilize funds effectively. Differences in administrative capacity cause a difference in allocation and spending performance across Panchayats. The authors suggest that decentralization needs more financial management systems and accountability. The study is topical to comprehend the difference in inter-Panchayat in SCP distribution and efficiency in expenditure in Kerala.

Thorat, S. (2009), in Dalits in India: Search for a Common Destiny, examines the socio-economic and political status of Dalits in modern-day India. The book touches on unending caste-related discrimination in schools, the workplace, markets, and the delivery of government services. Thorat presents empirical evicence that shows that the Scheduled Castes have been perpetually excludedespite constitutional protection and affirmative action policies and also examines poverty, landlessness and discrimination in the labor market among the Dalit communities along with the effectiveness of development programs and reservation policies the need for equal opportunity, non discrimination policies and inclusivegrowth strategies. So the book is an excellent review of

structural inequality and the social justice struggle that persist between the scheduled castes in india.

Dreze, J., and Amartya Sen (2013), in the work An Uncertain Glory: India and Its Contradictions critically assessed the process of indian development and social deprivation that remains. It says that the rapid economic growth has not been matched by gains in health, education and social security and that the marginalized groups and the scheduled castes are unequal. They stress that human development and social welfare should be invested in at the national level. The piec compares india to other developing countries in other areas such as nutrition and basic services. It marks inclusive development stressing democratic of economic growth in concert with social justice and equity.

Deshpande, A. (2013), in Social Justice through Affirmative Action in India: An Assessment, included in Capitalism on Trial: Exploration in the Tradition of Thomas E. Weisskopf evaluated the impact of affirmative action. It looks at the reservation policies developed to enhance access to eduction and other forms of public employment by the scheduled castes and other disadvantaged groups and other notes that while they have led to improvements in representation, inequalities persist particularly in higher employment and the private sector. Deshpande discusses merit and social justice ans that structural discrimination remains needing the affirmative action. The paper offers a critical 15assessment of the achievenment and limitations of reservations policies as a tool of equality.

Banerjee, A., and Esther Duflo (2013), in a book, Poor Economies: A Radical Rethinking of the Way to Fight Global Poverty, published by Society and Economy, use evidence based policy making framework to discuss how policy should be made based on the randomized control trials used to test antipoverty interventions. The authors look at behavioral constraints, information constrants and institutional difficulties on the decisions of poor households. And they argue that small interventions carefully designed interventions that involve health, educaton and credit can make bigger differences. It applies to the SCs who are structurally marginalized. So the study criticizes abstract ideological debates and pushes for situational solutions and it argues for information based and effective poverty reduction policies.

Heller, P. (2001), in the article, Moving the State: The Politics of Democratic Decentralization in Kerala, South Africa and Porto Alegre, explores the politics of democratic decentralization. It

compares Kerala, south Africa and Porto Alegre and explores how the decentralization may enhance participation and accountability. The author describes that the PPC in Kerala as an example of grassroots action. They also argue suggest that decentralization may serve to include minority groups, such as the scheduled castes with a stronger political intention focus on institutional design, and engagement with civil society. So, the author views decentralization as an opportunity but a politically contingent change process.

The article by Isaac, T. T., and Franke, R. W. (2002) in Local Democracy and Development: The Kerala People Campaign to Decentralized Planning in the book examines the decentralization and empowerment of the democratic local governments in the planning process and resource distribution that encourages more participation, openness and responsibility of the people in the development process, pening up possibilities for previously marginalized groups of individuals such sd the scheduled castes to become active in decision making , reviwing the 16 successes and failures od decentralized planning, and describing . so the kerala as a model to be emulated for participatory development and inclusive governance.

According to the Planning Commission (2006), in the Scheduled Caste Sub Plan, the plan and the arrangement for the successful application of the SCSP as a special plan have been finalized which mandates that the plan funds should be transferred to the states in proportion to the scheduled caste population. That means non divertible money should be used only for the schemes that are beneficial for SC communities, the report identifies priority sectors od education, housing, livelihood generation and accountability structures. The guidelines aimed to mainstream the welfare of SCs in the development planning. So this says the the policy foundation for targeted government expenditure for the eradication of socio-economic disparities of the Scheduled Castes.

CHAPTER-3

OVERVIEW OF THE SCHEDULED CASTE DEVELOPMENT

3. OVERVIEW

3.1 Introduction

The history of development of the Scheduled Castes in India is a long journey to transform social exclusion into policy consideration and intended state intervention. The constitutional rights and affirmative action measures have led to increased access to education, jobs, and political representation. These inequalities in terms of property ownership, means of living, and living standards continue to exist, demanding a shift from generalized welfare to specific fiscal planning and the Scheduled Caste Sub Plan (SCSP) was this redistributive budgetary approach to ensure for development were kept aside in relation to the Sc population. The effectiveness of this approach is based not only on commitments but also on the expenditure realization and the institutional processes that affect implementation.

This has bought to the fore questions of inequality between allocation and expenditure particularly in areas of decentralized planning, where local governments are the main actors in project formulation andimplementation. The study is contextualized in the demographic and institutional environment of Sc development in India and Kerala where fiscal and implementation issues are the basis of the allocation and expenditure gaps.

3.2 Scheduled Castes in India: Context for Targeted Fiscal Planning

The Scheduled Castes in India refer to a formerly marginalized group whose socio-economic status has been determined by caste-based marginalization, low asset accumulation, and asset concentration in low-productivity jobs. The differences in education, employment and living conditions are still present, but constitutional protection and affirmative action addressed these structural disadvatages. The 2011 census of india reported that scheduled castes numbered 201.4 million that is slightly higher than 2001 figure of 16.2 percent representing 16.6 percent of the population slightly more than 16.2 percent in 2001. The demographic is also highly rural with nearly three fourth of scheduled castes residing in rural areas.

The literacy rate had improved to 66.1 percent, 20 still below the national average and the demographic and work patterns of the workforce reflect the reliance on agricultural labor, casual jobs and informal jobs in the cities suggest the some development vectors need to be followed in

line with the proportion of the population and dispersion in the sector. The SCSP introduced to allocate resources to improve access to education, housing, infrastructure and livelihood was a visible policy strategy. As the national experience can point out, the difference between the intentions of a policy and its developmental results can never be fully known and state level analysis is necessary to understand the dynamics of the implementation processes.

3.3 The Scheduled Castes in Kerala: Development Achievements and Persistent Gaps.

The scheduled caste in Kerala has developed as a result of social reform movements, land reforms, and welfare expansion. Past land disenfranchisement and illiteracy had confined most scheduled caste groups to the rural sphere where they were subject to agricultural work under caste inequalities and it was the reform movements led by people such as Ayyankali that had defied these restrictions and began to slowly reverse social access and mobility.

In fact, as per 2011 Census data, 9.1 percent of the total population of Kerala (roughly 3 million people) are Scheduled Castes. Human development has been successful in the state, there has been an inequality in the quality of employment, enrollment in higher learning institutions, and assets which can be used productively among the SC communities.

Many SC workers remain concentrated in casual labor and low income service work and only a small proportion of land ownership hinders economic mobility. The timing of SC settlements and disparities in access to facilities demonstrate the relevance of certain development programs and the decentralized planning environment of Kerala places the local self-governments at the core of designing and implementing these programs in the local bodies, making clear the importance of looking at demographic distribution and sectoral priorities in explaining the varied developmental outcomes for Scheduled Caste development in the state.

3.4 Scheduled Castes in Kerala: Demographic Structure and Fiscal Benchmark.

Kerala is regarded as a unique state in India regarding the path to development. The state is active through constant investor activity, which has assisted it in reaching the top levels of literacy and

raising the life expectancy and growth of social welfarethe very fact that structural inequality between caste groups remains a common phenomenon should warrant a certain intervention.

Table 3.1

Population Profile of Kerala, Scheduled Castes (Census 2011).

Population Profile			
Status of SC (as per census 2011)			
SI. No.	**Item**	**SC**	
		Kerala	**India**
1	Population (in lakh)	30.39	2013
2	Percentage to total population	9.1	16.6
3	Decadal Growth Rate (%)	-2.7	20.8
4	Child Population to the total Population	14.5	9.4
5	Sex Ratio	1057	945
6	Literacy rate	88.7	66.07
7	Literacy rate- Female	85.07	56.46
8	Literacy rate - Male	92.64	75.17

Source: Population Census 2011.

According to the table 3.1, the Scheduled Castes constitute 9.1 percent of the total population of Kerala. These percentages are the normative level of SCSP allocation. It provides the minimum ratio of the plan expenditure to be set to ensure that there is demographic equality in the government expenditure.

The fiscal value of 9.1 percent is an obligatory value. An allocation that is lower than this would be a sign of imbalance in distribution, and any allocation that is at or above this would be a sign of compliance with the proportional budgeting standards.

Despite the high human development indicators in the state of Kerala, the SC communities remain limited by the absence of land ownership patterns, occupation diversification, and high-value economic unit availability. SCSP, therefore, plays the role in Kerala not just in ensuring that the

state can meet the national requirement but also is part and parcel of the redistributive development strategy of the state.

3.5 Spatial distribution of Scheduled Caste Population in Kerala

Scheduled Caste Population in Kerala is spatially dispersed, which presents a tremendous opportunity to measure equity of development planning and fiscal provisioning. In spite of the proportion of the Scheduled Castes to the total population of the state, about 9.1 percent according to the Census of India 2011, there are significant inter-district differences. It is important to realize these geographic differences when developing specific interventions under the Scheduled Caste Sub Plan, especially in Kerala, where the local governments are central in implementation within the decentralized planning system.

Table 3.2

District-wise Scheduled Caste Population (Census 2011)

SI. No.	District	Male	Female	Total SC Population
1	Kasaragod	26,385	26,898	53,283
2	Kannur	40,260	43,090	83,350
3	Wayanad	16,406	16,172	32,578
4	Kozhikode	97,279	101,912	199,191
5	Malappuram	151,557	156,709	308,266
6	Palakkad	197,451	206,382	403,833
7	Thrissur	156,480	167,870	324,350
8	Ernakulam	131,573	136,838	268,411
9	Idukki	72,399	73,087	145,486
10	Kottayam	75,503	78,406	153,909
11	Alappuzha	97,183	104,028	201,211
12	Pathanamthitta	78,942	85,523	164,465
13	Kollam	157,801	170,462	328,263
14	Thiruvananthapuram	178,589	194,388	372,977
	Total	**1,477,808**	**1,561,765**	**3,039,573**

Source: Population Census 2011, Table 14.3, Directorate of Scheduled Caste Development, Kerala.

Table 3.2 presents a significant inter-district disparity in Kerala in the concentration of the Scheduled Caste. Palakkad, Thiruvananthapuram, Kollam, and Thrissur have greater SC shares, with comparatively lower shares in Wayanad, Kasaragod, and Kannur. By a small margin, females predominate in all the districts. These spatial variations are economically significant in that places where SC is more concentrated might need greater assistance in terms of housing, schools, livelihoods, and infrastructure. Despite provisioning following norms based on the Census of India 2-11, the demographic variation in the state is best reflected in planning, thus, the effective implementation of SCP.

3.6 Institutional and Planning Environment of the Scheduled Caste Sub Plan Implementation

The evolution of the Scheduled Castes in India has increasingly slipped away from considering welfare-based interventions to the organized fiscal planning backed by constitutional insurance and specific budgetary plans. The SCSP in the fifth Five-Year Plan formalized this idea that the development resources are to be shared with the Sc population. The major differences between SCP and isolated schemes is that the former is a budgetary mechanism that is formulated in units and allocates sectoral investments in housing and education, livelihoods, social and infrastructural protection.

This proportional planning strategy can work only when institutional processes for the execution of funds and delivery of outcomes are in place: while allocation is a measure of policy intent (expressed in administrative procedures, project design, and monitoring systems), 24 of the earmarked funds would lead to actual delivery. While SCP has become a significant redistributive instrument differences in utliziation and sectoral balance have persisted over the year.

Implementation of SCP in Kerala fits into the decentralized planning approach initiated by the People's Plan Campaign, a participatory process that developed planning and financial resources for local self governments. Enabling identification of the local context of the SC development needs. SCP also takes into account the decentralized planning process that makes it more

responsive and participatory and enables local authorities to adopt interventions based on the spatial patterns of the deprivation marked by Census of India 2011.

Decentralization produces diversity among local governments I terms of planning capacity, technical competence and cost effective administration. Differences in how projects are formulated, how they are approved and how the systems for monitoring them may lead to uneven expenditure with adequate allocation. The operation of SCSP reflects the interaction between financial commitment and governance and it is the institutional setting that explains the variation in financial performance across sectors and regions.

3.7 Financial Commitment and Utilization Patterns in Scheduled Caste Development: Insights from Census 2011

The Scheduled Castes (SCs) are the population of 16.6 percent of India and 9.1 percent of Kerala, which are the population based benckmarks of SCP provisioning. The SCSP allocation in the state plan in early 2010 ranged consistently between 9 and 10 percent of the total plan expenditure. The absolute growth of SCSP allocation was in the period preceding Census 2011 and in 2010-11, it is 2789 crores. In 2011-12, it became 3142 crores and almost 3498 crores in 2012-13. The expenditure was slightly less than this, at around 2512 crores and 2874 crores in 2010 and 2011 respectively.

The 25 utilization rates of 90 percent indicate fairly high financial performance but also delays in the processes and limitations of the components implemented. The expenditures in sectors reveal the nature of the Kerala SCSP expenditure orientation: the largest share went to housing and then education program and welfare programs which together constitute the heart of SCSP interventions, followed by livelihood and infrastructure which had lower and declining rates of expenditure gains reflecting project time and coordination needs.

The study says the investments in the social sector to meet the short-term capacity gaps have been the dominant ones while the production sector investments to generate incomes and assets have been relatively low. These are more real terms than the socio-economic profile of the SC as noted in census 2011. It was seen that the group still faces a limitation of job, land and productive property. the movement in expenditure towards welfare and housing is meeting basic needs and will not importantly overcome structural constraints to livelihood in their entirety. These

differences between the expenditure and allocation under the SCSP conveys that the fiscal commitment alone is not sufficient to produce the developmental outcomes.

The allocation will show the political abilities and compliances with demographic norms. The expenditure will depend upon an administrative capacity, project design, monitoring mechanism and coordinations of departments. The underutilization of targeted funds is caused by the slowness in the approval of projects. The expenditure gap is an indicator of institutional performance and not of financial deficit which makes it imperative to monitor the SCSP performance by the governance and planning system of development.

CHAPTER 4

ANALYSIS OF DATA

4. ANALYSIS OF DATA

This chapter will provide the analysis of regional and sectoral allocation and expenditure of the Scheduled Caste development in Kerala between 2016-17 and 2025-26. The analysis is done on a regional basis by categorizing the state into three regions, namely North, Central, and South, to examine the inter-regional disparities in allocation and expenditure. The allocation and expenditure data are analyzed to identify the spatial variations and temporal changes in the Scheduled Caste development funding.

Patterns and comparisons across regions and sectors are represented in the form of graphical visualizations that are created through the use of Power BI. Also, a paired sample t-test was used to establish the statistical significance of regional variations.

The chapter has been divided into the following parts:

4.1 Regional Analysis:

This part of the paper discusses the allocation and expenditure disparities of the Scheduled Caste community in the three regions of Kerala.

4.2 Sectoral Analysis:

This part discusses sector-specific disparities in the distribution and use of funds towards the Scheduled Caste population.

4.3 Empirical Testing:

In this section, a paired sample t-test is used to test the statistical significance of the regional differences in funds allocation and expenditure to develop the Scheduled Caste population.

4.1 Regional Analysis

In this session, the allocation and expenditure changes between the Scheduled Castes in the chosen Grama Panchayats in Kerala during the period 2016-17 and 2025-26 are analyzed. To facilitate systematic comparison of the pattern of fund distribution and utilization, the state has been divided into three regions, namely North, Central, and South.

Taking into account aggregate trends as well as sector-level trends, the analysis evaluates the extent to which allocation follows the regional spread of the Scheduled Caste population and reveals differences in the performance of expenditures, thus indicating inter-regional inequalities in fiscal prioritization and implementation of programs.

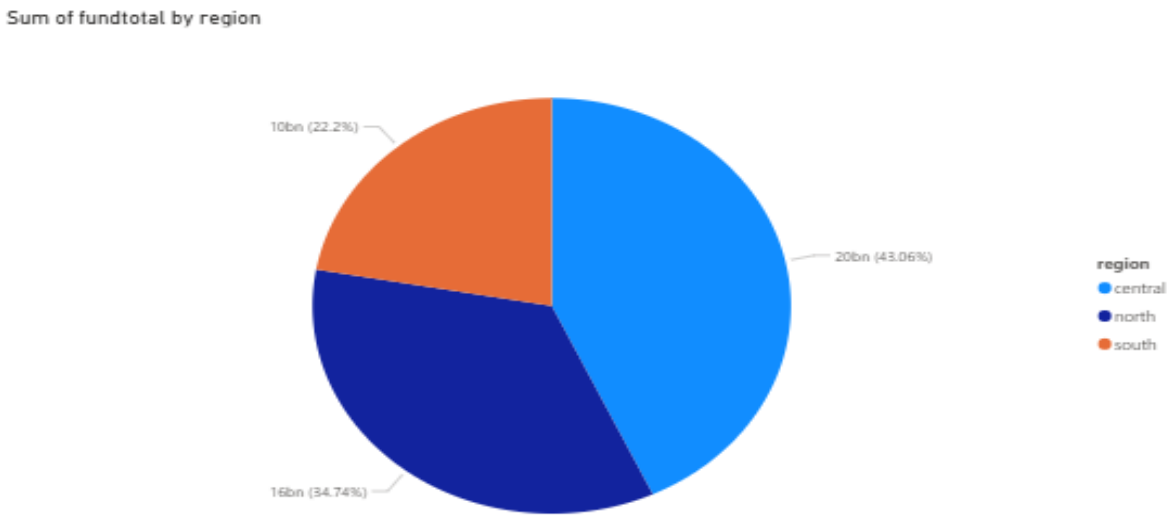
4.1.1 Sum of fund total by region

The regional allocation of total fund reveals evident regional difference in the three regions showing that planning focus and development priorities are different in three regions. The largest percentage in the central region which has about 43.06 percent (about 20bn) of the total funds which means that there is a relatively high concentration of development activities and monetary priority. The north region comes in next with almost 34.74 percent (almost 16 billion), which represents a significant but rather low degree of allocation, showing a fair but subdued significance in the regional structure. Conversely, the south region is the lowest beneficiary with only 22.23 percent (approximately 10 billion), pointing to a relatively lower amount when compared to the other regions. Combined, the pattern will be a central-dominated allocation scheme with moderate distribution towards the north and lower portion to the south, which implies the regional differences in fiscal focus and development planning.

The following figure 4.1 depicts the sum of fundtotal by region

FIGURE 4.1

Sum of fundtotal by region



Source: primary data

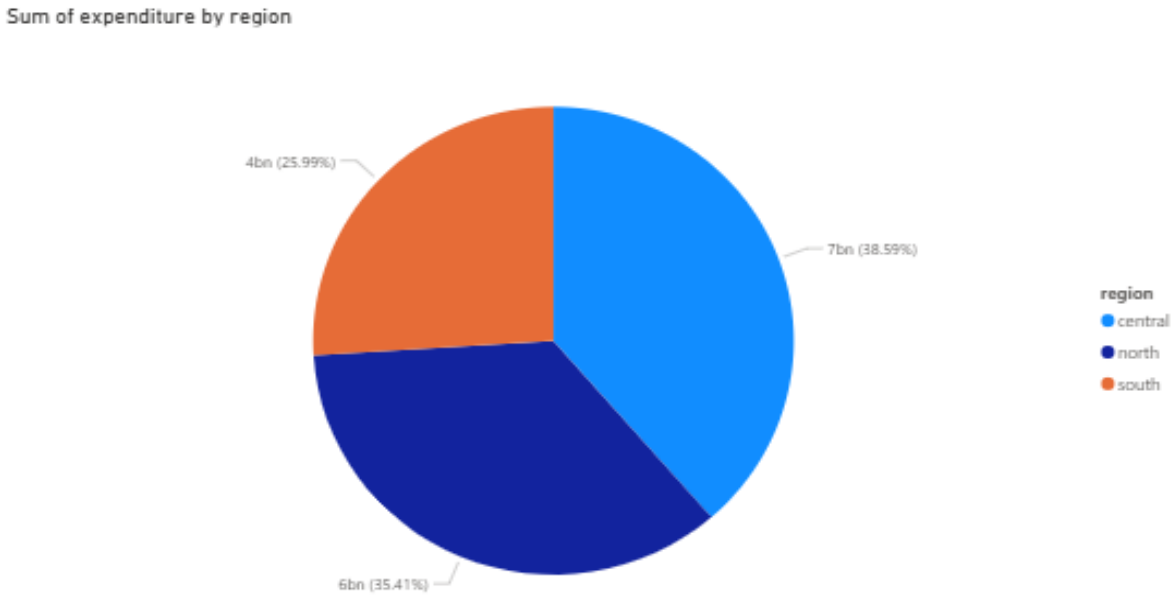
4.1.2 Sum of expenditure by region

The pattern of distribution of expenditure is widely similar in the regional expenditure, but with slight discrepancies in the proportionality, which shows some disparities in the use of the funds. The main region has the largest amount of expenditure of approximately 38.59% (approximately 7bn), which implies the conversion of the earmarked amount to actual spending is high, thus, relatively good implementation capacity. The north is second with almost 35.41 percent (almost 6 bn), showing a similar rate of fund absorption and implementations of the program. On the other hand, the south has the least share of approximately 25.99 percent (approximately 4 bn). This represents a significant level of utilization compared to its allocation, though it is less than the rest of the regions. In general, the expenditure pattern shows a centralized expenditure pattern where there is moderate expenditure in the north and relatively low expenditure in the south, which indicates slight regional differences in the implementation impact.

The following figure 4.2 depicts the sum of expenditure by region.

FIGURE 4.2

Sum of expenditure by region.



Source: primary data

4.1.3 Sum of fundtotal by year, region, and sector type

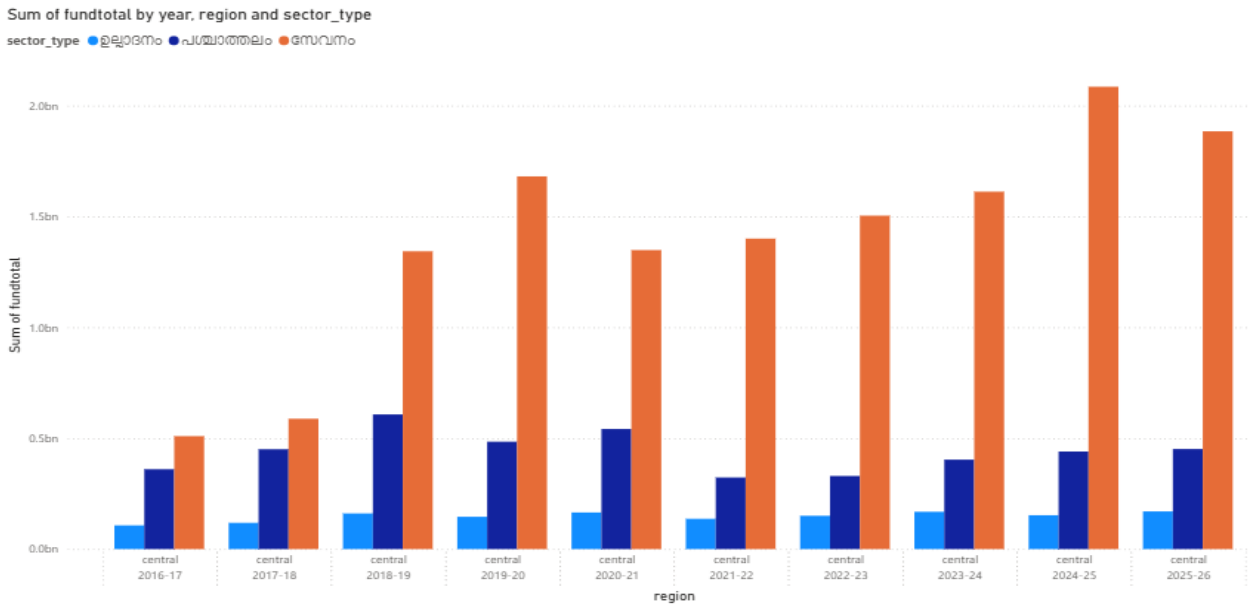
The year-wise total funds in the Central region show a clear dominance of the service sector over production, and infrastructure. Compared to 2016-17, the increase in service funds is about 0.5 bn to about 0.5 bn to about 0.6 bn in 2017-18 and 2018-19, respectively. They decreased to around 1.35bn in 2020-21 and gradually increased to around 2.1bn in 2024-25 and slightly to 1.9bn in 2025-26.

The second-largest in infrastructure funds, which increased by approximately 0.35 bn in 2016-17 and almost 0.6 bn in 2018-19, followed by highs and lows, and reached approximately 0.45 bn in 2025-26. Production funds are the smallest component, with average amounts of around 0.1 bn to 0.18 bn in the entire period. Overall, the central region is associated with emphasis on the service sector, moderate resource distribution and comparatively lower funding of production.

The following figure 4.3 depicts the sum of fundtotal by year and sectortype in central region.

FIGURE 4.3

Sum of fundtotal by year, region, and sectortype



Source: primary data

4.1.4 Sum of fundtotal by year, region, and sectortype

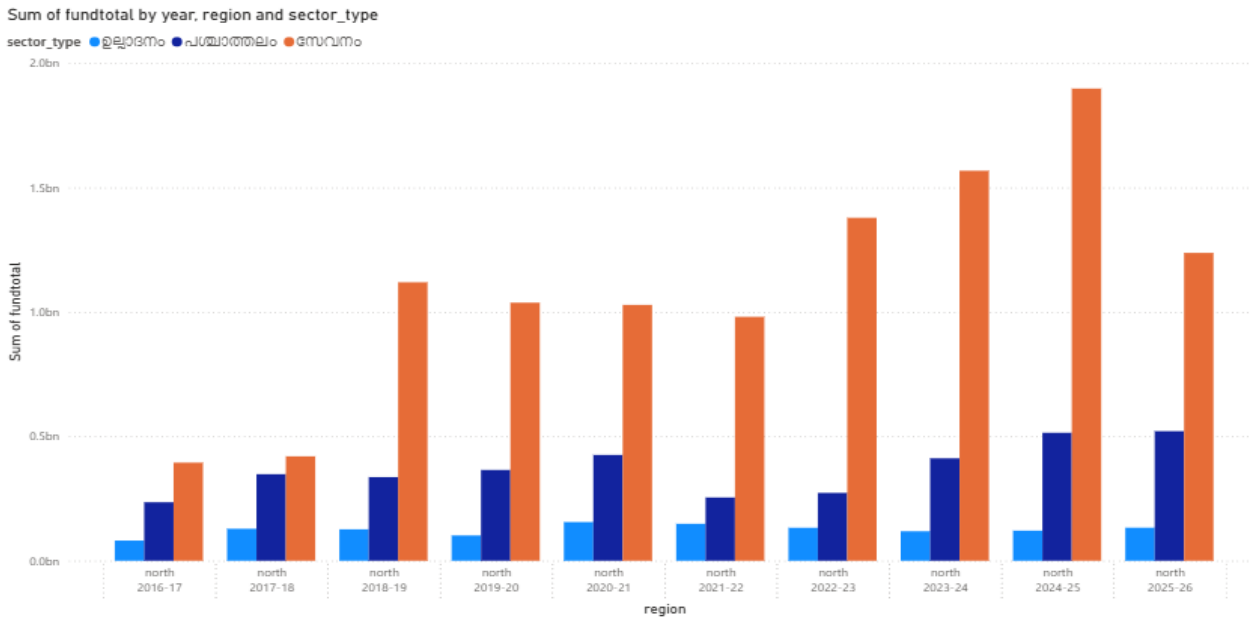
The service sector in the north region consistently receives the highest allocation. Service funds grow to approximately 0.4 bn in 2016-17 to nearly 1.1 bn in 2018-19, stay at around 1.0 bn in 2019-2021, and then steadily grow to approximately 1.9 bn in 2024-25, and finally, decrease to approximately 1.25 bn in 2025-26. The growth following 2021-22 is a sign of new growth in the area of services funding. The 2025-26 drop could imply either an alternation or a decrease in allocation in 2025-26.

The second-largest share is the infrastructure funds, which increases between 0.25 bn in 2016-17 to 0.44 bn in 2020-21 and decreases to 0.52 bn in 2024-25. The smallest component is production funds, with a variation of about 0.08 bn to 0.16 bn. The infrastructure changes also indicate that there are changes in development priorities, which are periodically changed. Overall, the north region is characterized by high priorities on service distribution, varying infrastructure investments, and relatively limited production investment.

The following figure 4.4 depicts the sum of fundtotal by year and sectortype in the north region.

FIGURE 4.4

The sum of fundtotal by year, region, and sectortype.



Source: primary data

4.1.5 Sum of fundtotal by year, region, and sectortype

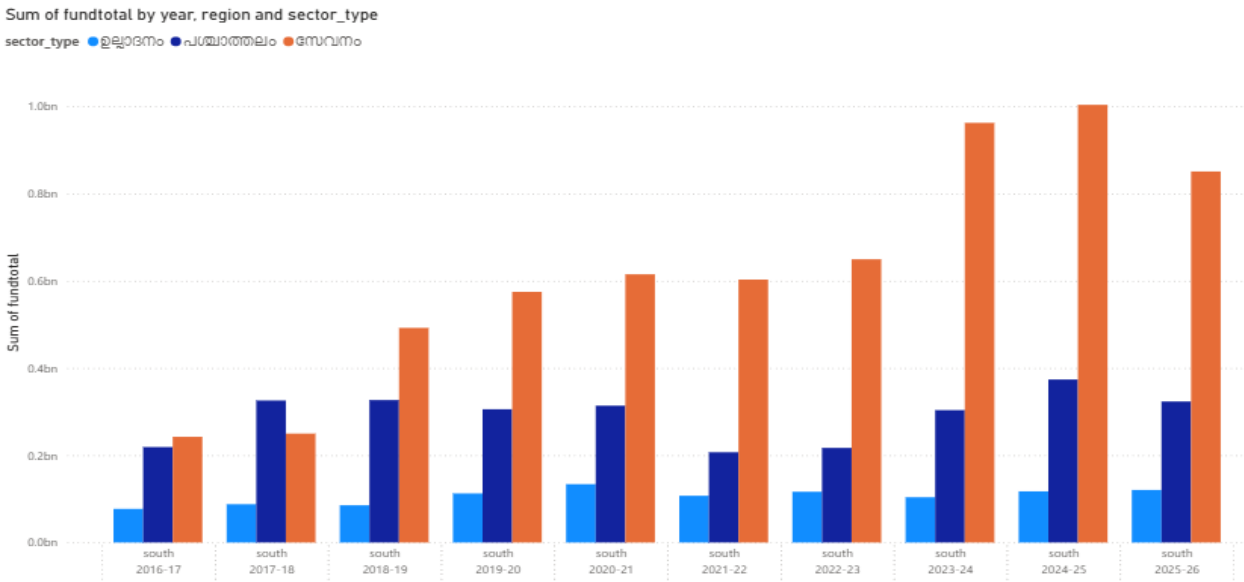
The south region demonstrates that the service sector gets the highest allocation in most years. The funds of service increase by approximately 0.24 bn to almost 0.62 bn in 2020-21, increase sharply to around 1.0 bn in 2024-25, and subsequently fall to approximately 0.85 bn in 2025-26. The steady increase up to 2024-25 implies the increased significance attributed to service delivery. The subsequent fall indicates a moderation in allocation during the final year.

The second-largest share is usually taken by infrastructure funds that grow between approximately 0.21 bn in 2016-17 and about 0.32 bn in 2017-18 with some variation in the years that follow and almost reaching 0.37 bn in 2024-25 before decreasing slightly. The smallest component is production funds which are between 0.07 bn and 0.14 bn. The relatively steady but less than high production allocation indicates no big structural growth in that industry. Overall, the south region indicates the focus of the service sector, average and fluctuating funding of infrastructure, and comparatively lower investment in production in the period of the study.

The following figure 4.5 depicts the sum of fundtotal by year and sectortype in south region.

FIGURE 4.5

Sum of fundtotal by year, region, and sectortype



Source: primary data

4.1.6 Sum of expenditure by year, region, and sectortype

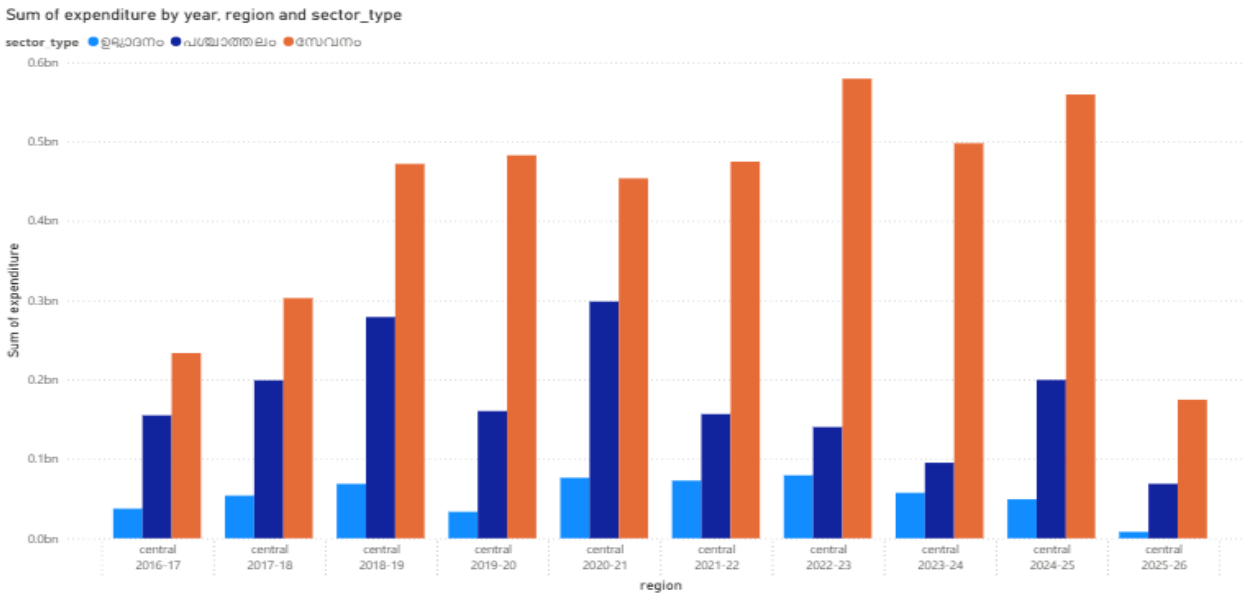
The year-wise expenditure pattern in the central region across Production (ulpadanam), Infrastructure (pashchathalam), and Service (sevanam) sectors indicates a clear prevalence of the service sector across the years. The amount of service expenditure increases to approximately 0.23 bn in 2016-17 and 0.47 bn in 2018-19, and 0.48 bn, respectively, in 2019-20. It is followed by a small decline of about 0.45 bn in 2020-21 and 2021-22, then steeply up to about 0.59 bn in 2022-23, falls to about 0.50 bn in 2023-24, and then to almost 0.17 bn in 2025-26.

Infrastructure expenditure is the second-largest element, which ranges between about -.14 bn and 0.30 bn, whereas production is the least with an average of about 0.03 bn to 0.08 bn.in general, the central region shows sustained prioritization of service expenditure, moderate variation in infrastructure expenditure, and limited focus on production.

The following figure 4.6 depicts the sum of expenditure by year and sectortype in central region.

FIGURE 4.6

Sum of expenditure by year, region, and sectortype



Source: primary data

4.1.7 Sum of expenditure by year, region, and sectortype

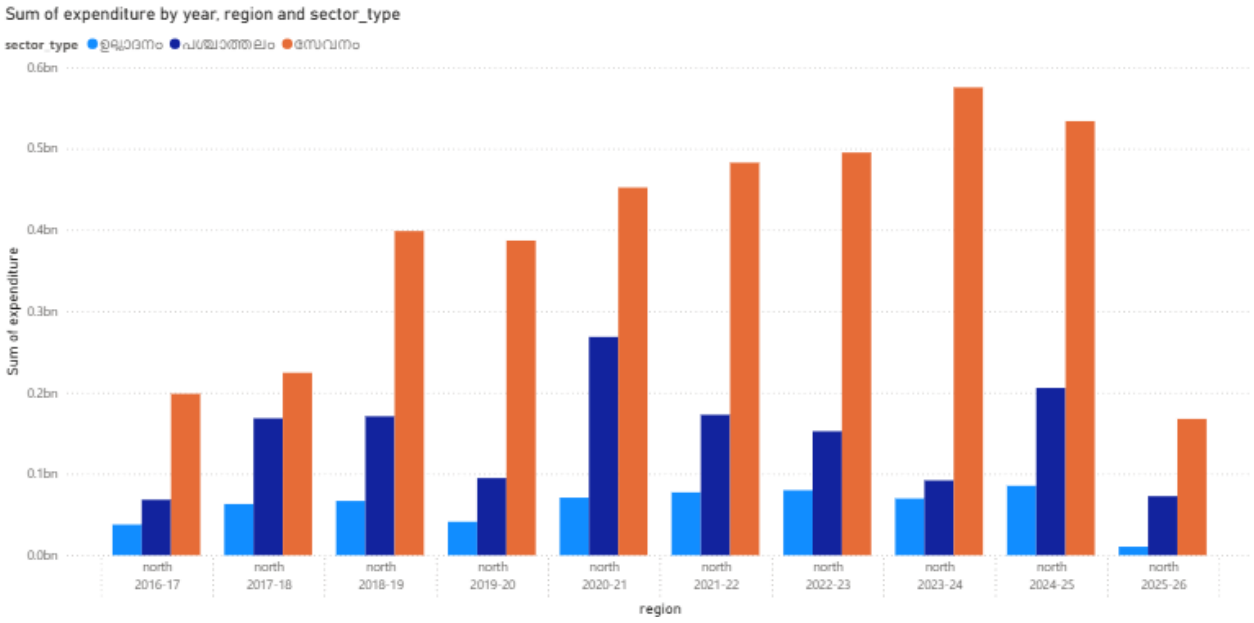
The year-wise expenditure trends in the North region in production, infrastructure, and service sectors reveal that the service sector has the maximum expenditure in every year. There is growing service expenditure of approximately 0.20 bn in 2016-17 to almost 0.40 bn in 2018-19, followed by a slight decrease to around 0.58 bn in 2023-24. It is at a high level of approximately 0.53 bn in 2024-25, and then it decreases drastically to approximately 0.17 bn in 2025-26.

Infrastructure expenditure forms the second-largest share, which swings between approximately 0.09 bn and 0.27 bn with a peak between 2020-21 and 2024-25. Production expenditure is also the least constituent with a range of about 0.03 bn to 0.09 bn across the years, which is an indication of the consistent focus on service expenditure in the North region, average variation in the infrastructure spending, and a relatively low allocation to production over the years of study.

The following figure 4.7 depicts the sum of expenditure by year and sectortype in north region.

FIGURE 4.7

Sum of expenditure by year, region, and sectortype



Source: primary data

4.1.8 Sum of expenditure by year, region, and sectortype

The year-wise expenditure trend in the South region in the Production (ulpadanam), Infrastructure (pashchathalam), and Service (sevanam) segments indicates that the service sector has been spending the most amount of finances during most of the years. The growth in service expenditure is 0.14 bn in 2016-17 to nearly 0.25 bn in 2018-19, decreasing slightly to about 0.31 bn in 2021-22 and 0.30 bn in 2022-23. It reaches its peak of approximately 0.44 bn in 2023-24, and continues on the same level of approximately 0.41 bn in 2024-25, then reduces to an almost equal 0.14 bn in 2025-26.

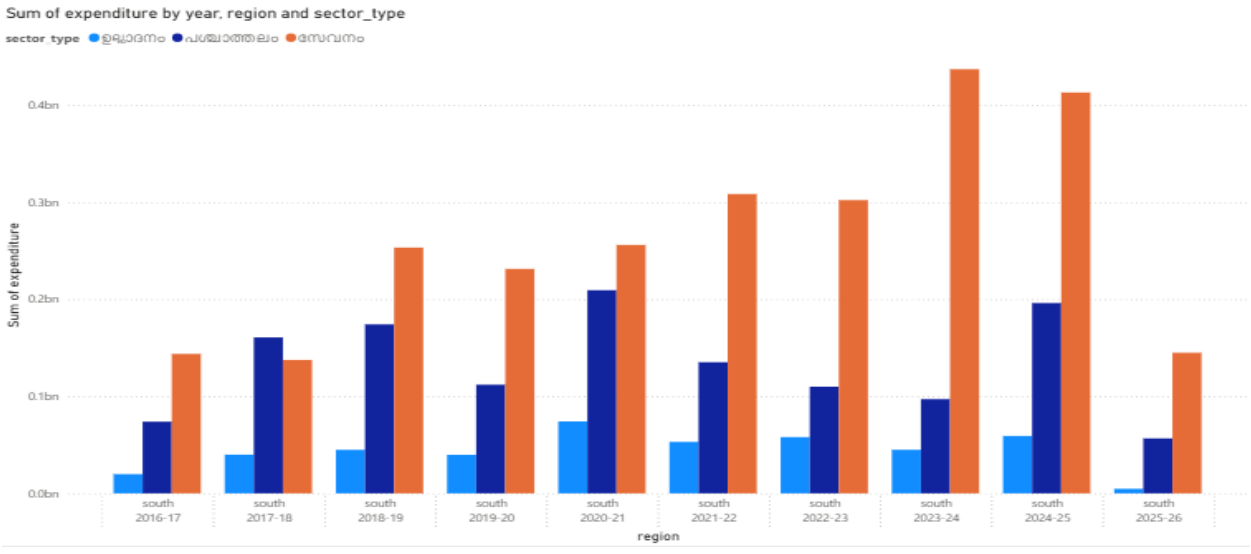
Infrastructure expenditure forms the second-largest share in most years, which is highest in 2020-21 at 0.21 bn and in 2024-25 at 0.20 bn, though there are significant and varied changes between the years. Production expenditure is the least constituent with a range of 0.02 bn and 0.07 bn.

Overall, the number suggests a long-term focus on service expenditure in the South region, a relatively high change in infrastructure spending, and a relative lack of focus on production over the course of the research.

The following figure 4.8 depicts the sum of expenditure by year and sectortype in north region.

FIGURE 4.8

Sum of expenditure by year, region, and sectortype



Source: primary data

4.2 Sectoral Analysis

This part compares the sector-by-sector variations in the allocation and expenditure on the Scheduled Caste on the production, infrastructure and service sectors in Kerala between 2016-17 and 2025-26. The comparison will be on sectoral shares, trends, and patterns of utilization.

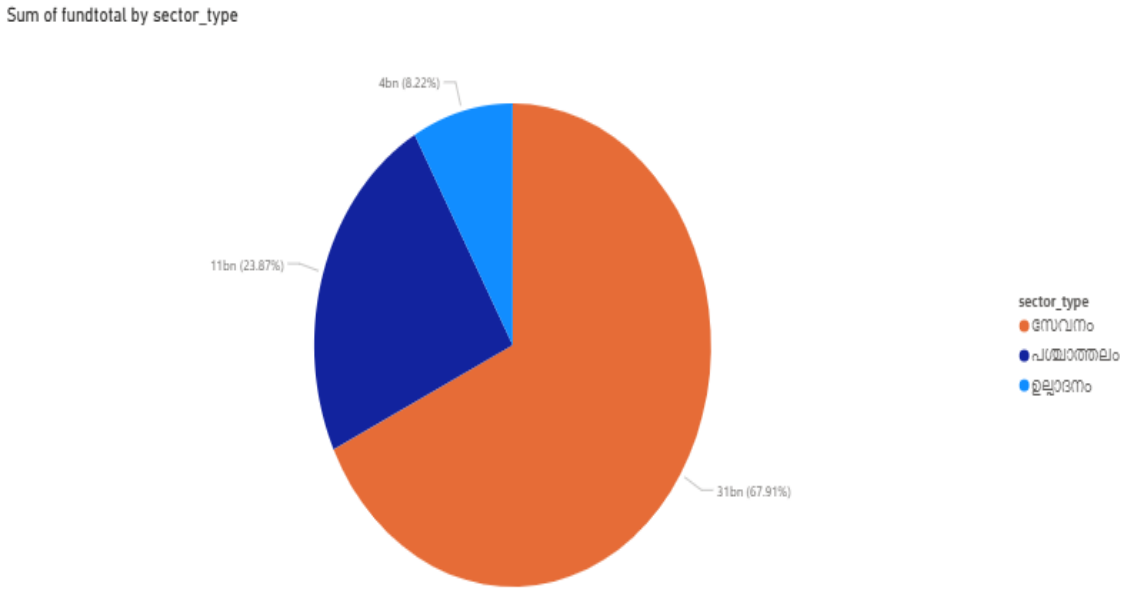
The section highlights the imbalance of sectors by analyzing the allocation and spending in the sectors and the focus on welfare-oriented activities, supportive activities and productive activities in the Scheduled Caste development.

4.2.1 Sector-wise distribution of total funds

The Figure 4.9 illustrates the sector-wise distribution of total funds among the production (ulpadanam), infrastructure (pashchathalam), and service (sevanam) sectors, where the service sector is by far the leader in the allocation of funds. Over 68 percent of the total funds (approximately 31bn) is in the service sector, which implies that a high priority of welfare and service-oriented activities was made. This is followed by the infrastructure sector, which receives about 24% (approximately 11bn), which has a moderate focus on developmental and supportive investment. The production sector, on the other hand, has the smallest share at roughly 8% (approximately 4bn), which implies that there is limited allocation for income-earning and productive activities. In general, the figure reveals an eminent sectoral imbalance, where the funding is greatly concentrated on the services, but the infrastructure and, particularly, production are relatively underfunded areas.

FIGURE 4.9

Sum of fundtotal by sectortype



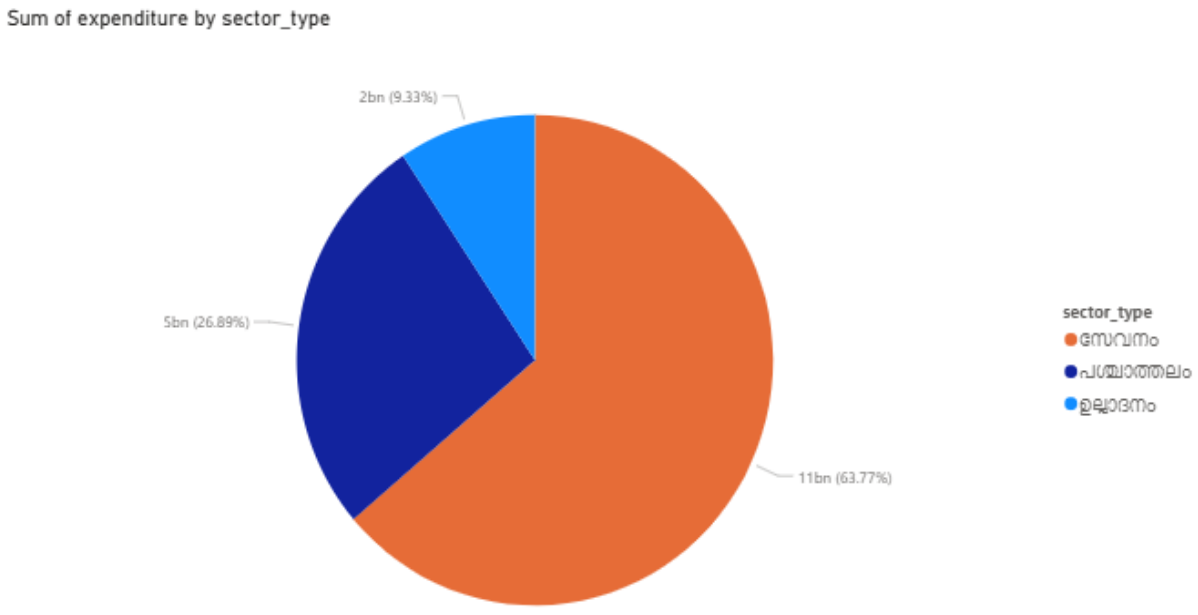
Source: primary data

4.2.2 Sector-wise distribution of total expenditure

Fig 4.10 presents a sector-wise distribution of total expenditure in the production (ulpadanam), infrastructure (pashchathalam) and service (sevanam) segments, which indicates that the expenditure is bundled in the service sector. There is a strong focus on service-oriented and welfare-related activities as the service sector accounts for the largest share at approximately 64% (≈11bn) of total spending. Infrastructure comes next with approximately 27 percent (≈5bn), which indicates a moderate level of investment in supporting and developmental works. In the meantime, the production sector is the least important with almost 9 percent (≈2bn), indicating a relatively low expenditure on productive and income-earning projects. Generally, the figure indicates a consistent sector-wide imbalance in expenditure, with services taking the dominant role in actual expenditure patterns, infrastructure and, especially, production receive relatively less financial attention.

FIGURE 4.10

Sum of Expenditure by sectortype



Source: primary data

4.2.3 Sector-wise total fund allocation by year

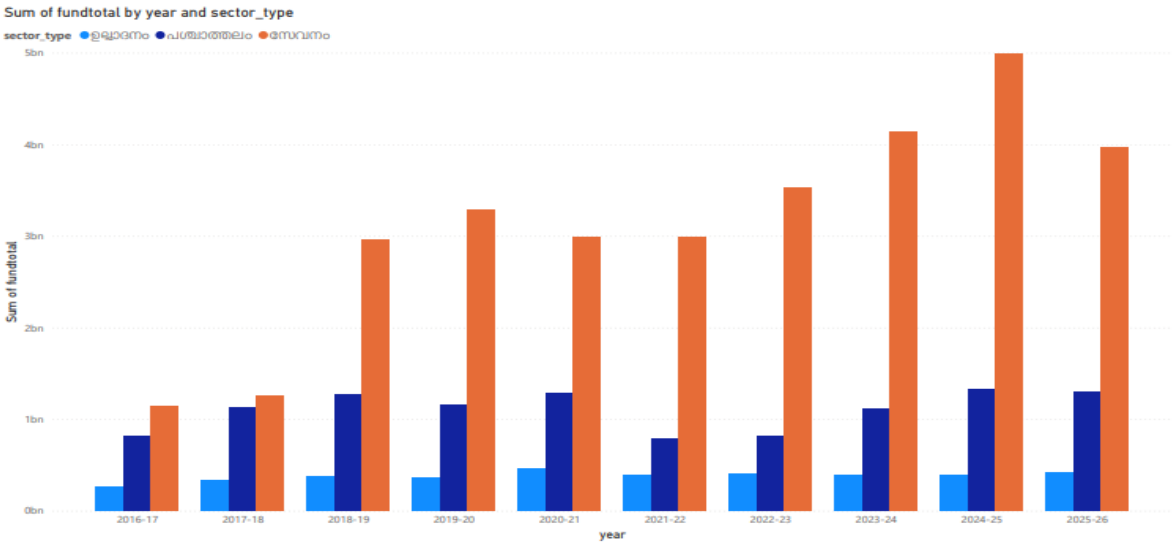
The distribution of total funds in the year 2016-17 through 2025-26 in all three sectors namely production (ulpadanam), infrastructure (pashchathalam) and service (sevanam) shows the preponderant role of the service sector during the period.

It begins with relatively low allocations in 2016-17, and then soars in 2018-19, where service allocations will go close to 3bn, infrastructure allocations approximately 1bn, and growth in production will be only modest. It experiences a period of relative stability between 2019-20 and 2021-22, as service allocations will sit around 3bn with a temporary reduction of infrastructure and little fluctuation in production. By 2022-23, growth returns, with an increase of over 4bn in service funds, only slightly slowed in 2024-25, and a gradual improvement in infrastructure and a steady production being the least volatile element. Comprehensively, the trend indicates low inter-sectoral equilibrium, mid-year stagnation, and rebirth in the late years, which is largely due to increasing investment in the service sector.

The following figure 4.11 depicts the sum of fundtotal by year and sectortype.

FIGURE 4.11

Sum of fundtotal by year and sectortype



Source: primary data

4.2.4 Year-wise sectoral distribution of expenditure

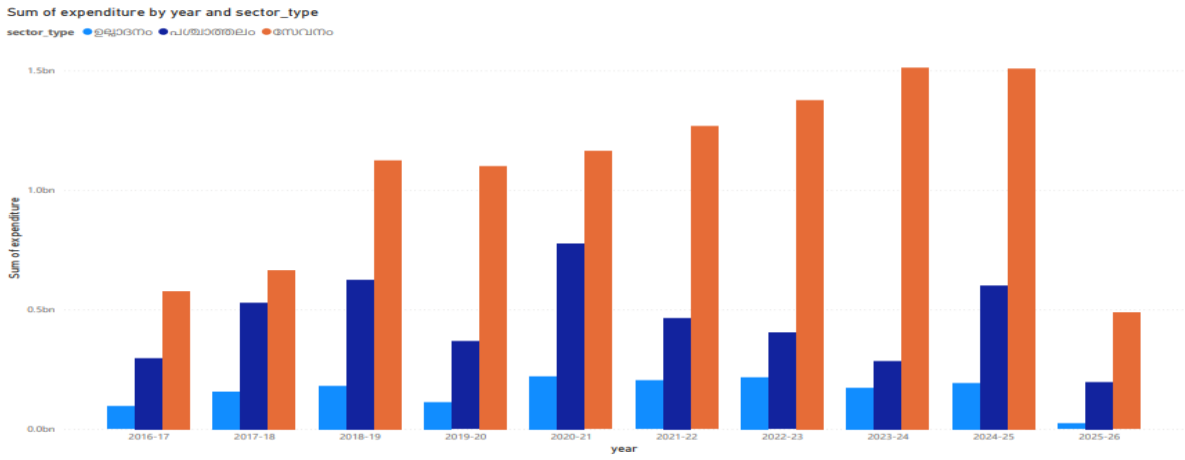
It can be seen that the expenditure pattern of the year-wise production (ulpadanam), infrastructural (pashchathalam), and service (sevanam) sectors in 2016-17 to 2025-26 show that the amount of expenditure in the service sectors remains predominant. The level of expenditure is low in 2016-17 and rises in every year reaching over 1.1 bn in 2018-19. The infrastructure spending and a slight increase in production are expected. It increases slightly more in 2019-20 and then much more in 2020-21 then spending on infrastructure reaches a high of about 0.5 bm as service expenditure continues to rise. This pattern of increasing expenditure on welfare and welfare related activities would be continued in 2021-22 and increased in 2023-24 and 2024-25.

The infrastructure spending will fluctuate with a mild recovery after 2022-23 but production is likely to be the less variable with minimal year to year changes. The sharp decline in 2025-26 in sectors could reflect partial year reporting or a slowdown in spending. The figure suggests a sectoral imbalance in which service spending on services has been predominant. Infrastructure investment and production related spending has relatively low.

The following figure 4.12 depicts the sum of expenditure by year and sector type.

FIGURE 4.12

Sum of expenditure by year and sectortype



Source: primary data

4.2.5 Sum of fundtotal by year and sectortype in Production sector

Figure 4.13 shows the amount of total funds (in millions) to be spent between the periods 2016-17 and 2025-26 between the ten sub-sectors of the production sector. The year-by-year trend indicates clearly variations in the magnitude, growth pattern, and priority in the sectors.

Energy production is allotted insignificant sums during the period, with fluctuations between 1 and 3 million, with no observable growth pattern. Dairy Development records consistent growth, starting at 15m in 2016-17 and going up to 34m in 2017-18 and 42m in 2018-19, rising to 59m in 2020-21, remaining around 49-55 million during 2021-22 to 2023-24, peaking at 64m in 2024-25, and declining slightly to 57m in 2025-26.

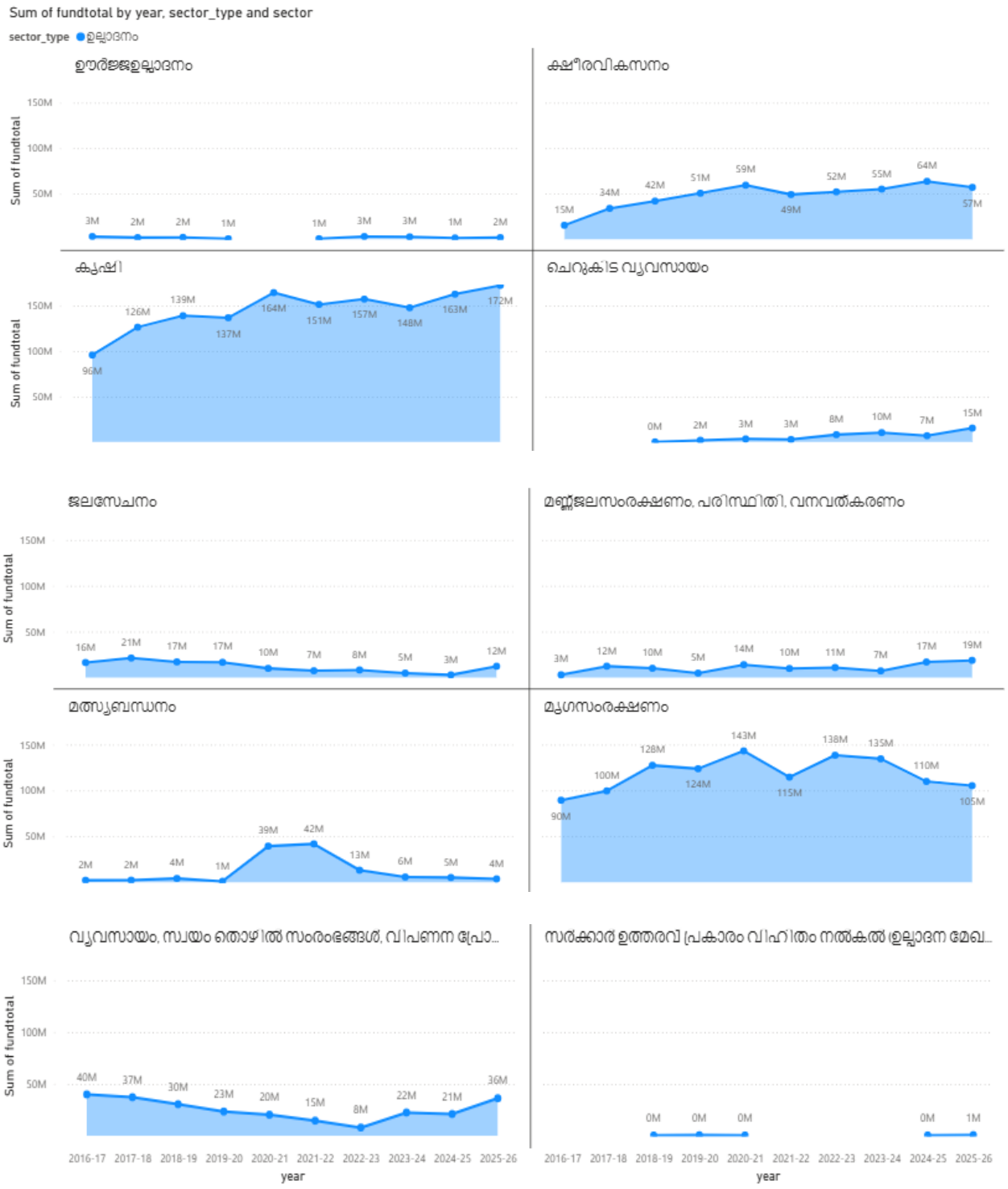
Agriculture receives comparatively higher allocations, which will increase by 96m in 2016-17 to 139m in 2018-19, dropping to 137m in 2019-20, peaking at 164m in 2020-21, fluctuating between 148m and 163m during the middle years, and reaching 172m in 2025-26. Minor Irrigation fell to 16m in 2016-17 to 10m in 2020-21 and 7m in 2021-22, and 3 million in 2024-25, and slightly returned to 12m in 2025-26. Soil and Water Conservation fluctuate moderately as it is 3m in 2016-17, which then increases to 12m in 2017-18, 14m in 2020-21, and 19m in 2025-26.

Fisheries have high amounts of allocations, and have increased from 90m in 2016-17 to 128m in 2018-19, and 143m in 2020-21, fluctuating between 110 and 138 million in subsequent years, and standing at 105 million in 2025-26. Animal Protection is passing through a higher point since the amount rose from 2m in 2016-17 to 42m in 2021-22, before declining sharply to 4m in 2025-26. Industry, Self-Employment, and Marketing Promotion decreased continuously from 40m in 2016-17 to 8m in 2022-23, before recovering to 36m in 2025-26. Allocation of Funds as per the Government Order has been very low and has been mostly at 0 million during the period, with just 1m having been registered in 2025-26.

Overall, Agriculture and Fisheries receive the highest number of allocations of 172m and 143m respectively, especially in 2020-21 and 2025-26. The second tier is Dairy Development with a level of 64m in 2024-25, and the other sub-sectors are relatively small, implying that allocation is concentrated in a few production activities.

FIGURE 4.13

Sum of fundtotal by year, sectortype, and sector



Source: primary data

4.2.6 Sum of fundtotal by year and sectortype in the Infrastructure sector

Figure 4.14 shows the sum of fundtotal (in billion) allocated between 2016-17 and 2025-26 in the eleven sub-sectors of the Infrastructure sector. The annual trend is significant due to the large variation and ranking of items.

The Related Facilities have the least amount of funds allocated at 0.00bn with a high of 0.01bn in 202526. Public Places not in Manufacturing and Service Sectors report a medium level amount of funds allocated with an increase from 0.19 bm in 2016-17 to 0.26 bn in 2017-18 then a rise of 0.22 to 0.24 bn in 2018-19 to 202021 before declining to 0.17 bn in 2021-22 and remaining near 0.23bn in 2025-26.

Transportation is the mostly prominent area. The allocation are 0.55 bn in 2016-16 and increasing to 0.79 in 2017-18 and 0.95 bn in 2018-19 then fall to 0.83 bn in 2019-20, rise again to 0.93 bn in 2020-21 fall sharply to 0.53bn in 2021-22 and 0.52 bn in 2022-21 rebounded to 0.78 bn in 2023-24 peak at the 1.04 bn in 2024-25 and ease to 0.94 bn in 2025-26. Street Lighting and Office Electrification have slow but steady growth from 0.05bn in 2016-17 to approximately 0.09bn in 2020-21 then fluctuating between 0.06 and 0.09 bn respectively.

Other Construction Works is minuscule, rising slightly between 0.00bn in 2016-17 to approximately 0.02bn in 2020-21, followed by a downward trend to 0.01bn in subsequent years. Projects not part of the Annual Plan and Vehicle Purchase are smalland mostly in the 0.00-0.01 bn range over the years. Government Orders, Other Orders, and related projects continue to be minimal, and fluctuate around 0.01bn with no major changes. Allocation of Funds as per Government Order also remains at about 0.00-0.01 billion over the study period. Social Welfare and Social Security, which are close to at 0.00 bn most of the years.

Generally, Transportation takes up by far the greateststst amount, with the maximum of 1.04 bn in 2024-25, Public Places in the 1.07-0.26 bn range, and Street Lighting around 0.05-0.09 bn, while the remaining sub-sectors remain below 0.02bn all through the study period and implying that the infrastructure allocation is highly concentrated in transportation-related activities.

FIGURE 4.14

Sum of fundtotal by year, sectortype, and sector

Source: primary data

4.2.7 Sum of fundtotal by year and sectortype in Service sector

Figure 4.15 presents the sum of fundtotal (in billion) allocated from 2016-17 to 2025-26 across eleven sub-sectors under the Service sector. The year on year trend indicates significant diversification in both magnitude and sectoral priority.

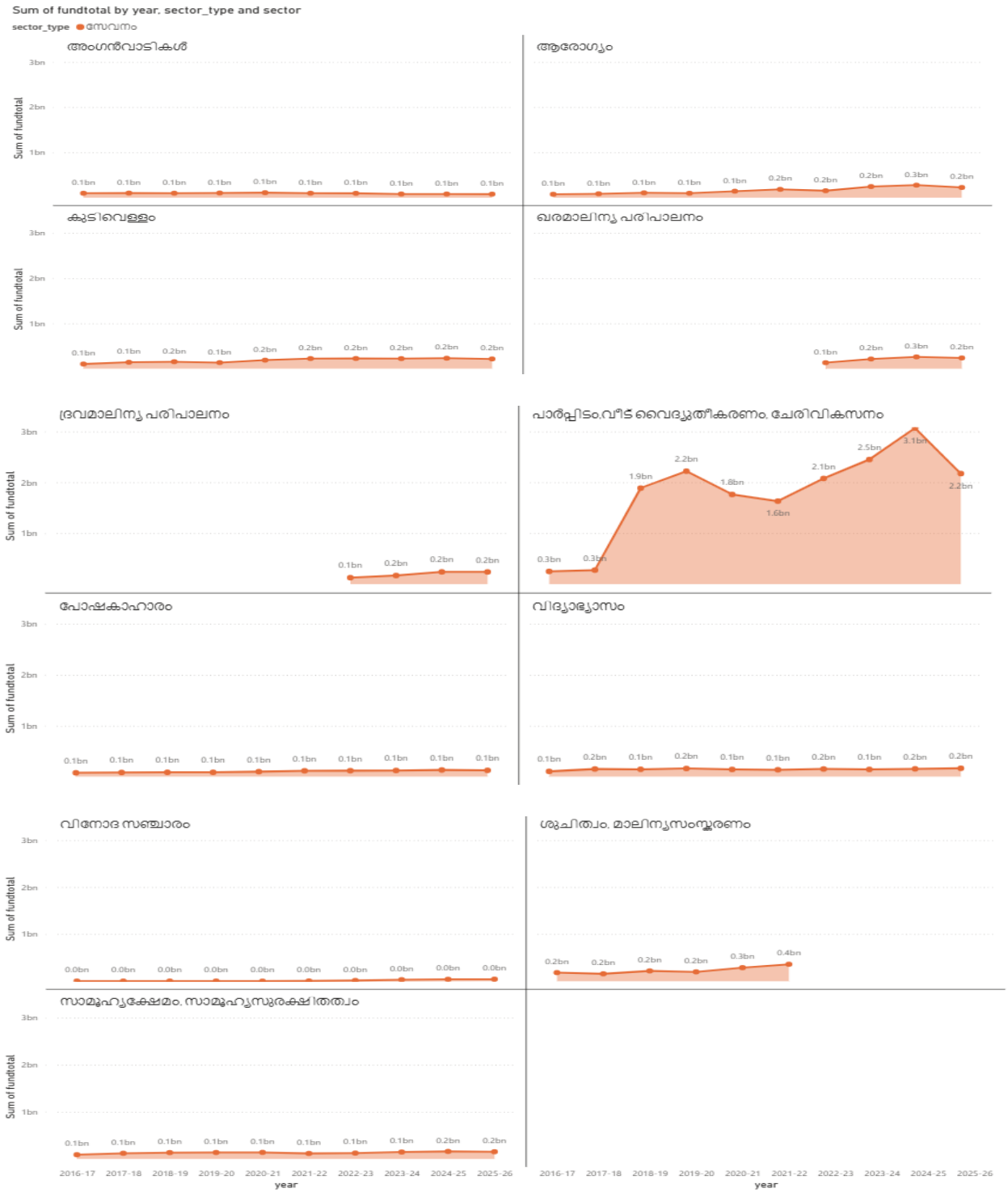
Anganwadi see stable allocations of approximately 0.10bn across the period. Health shows a slow growth from 0.10bn in 2016-17 to almost 0.20bn in 2021-22, an increase to about 0.20-0.25 bn in 2022-23 and 2023-24, and 0.30bn in 2024-25 before declining a little to 0.20bn in 2025-26. Drinking Water follows an average trend, with an increase in 0.10 bn in 2016-17 to 0.20 bn in 2018-19, a decrease in 2019-20, and an increase to approximately 0.20 bn in 2020-21 to 2024-25, and to 0.20bn in 2025-26.

Solid Waste Management inddicates a slow increase from 0.10 bn in 2016-17 to almost 0.30 bn in 2024-25 and then to decline to 0.20 bn in 2025-26. Liquid Waste Management shows a constant growth rate of 0.10 bn in 2022-23 to 0.30 bn in 2024-24 and 0.20 bn in 2025-26. Housing, Home Electrification, and Slum Development accounts for largest allocations. Funds rise sharply from 0.30bn in 2016-17 to 1.90bn in 2018-19 and 2.20bn in 2019-20, decline to 1.60bn in 2021-22, rise again to 2.50bn in 2023-24, peak at 3.10bn in 2024-25, and decline to 2.20bn in 2025-26 respectively. Nutrition is also fairly constant at around 0.10 bn throughout the period of study. Education varies between 0.10 and 0.20bn, with small peaks in 2017-18, 2019-20, 2022-23, and 2024-25. Tourism remains very low, around 0.00bn throughout. Sanitation and Waste Management show slow growth from around 0.20bn in 2016-17 to 0.40bn in 2021-22. Social Welfare and Social Security grow a littlebit, from 0.10bn in 2016-17 to nearly 0.20bn in 2024-25 and 2025-26.

In general, Housing, Home Electrification, and Slum Development consume the highest share, reaching the highs of 3.10bn in 2024-25, then Sanitation and Waste Management and Health in the range of 0.20-0.40 bn, and the other sub-sectors are rather sparsely dispersed in the range of 0.20 bn over the study period, which is why the distribution of allocations towards housing-related interventions is quite concentrated in the service sector.

FIGURE 4.15

Sum of fundtotal by year, sectortype, and sector



Source: primary data

4.2.8 Sum of expenditure by year and sectortype in Production sector

Figure 4.16 shows the sum of total expenditure (in million) from 2016-17 to 2025-26 across ten sub-sectors under the Production sector. The annual trend showed a change in magnitude, volatility, and concentration of expenditure.

Energy Production category shows the lowest level of spending that fluctuating bettwen 0 and 2 m and showing no clear upward trends. Dairy Development changes between 9m in 2016-17 and 26m in 2017-18 and 30m in 2018-19, drops to 18m in 2019-20, rises again to 30n in 2020-21, and steadily rises to 41m in 202425 then sharply fall to 4m in 2025-26. Agriculture have relatively high expenditure. It increases from 46m in 2016-17 to 85m in 2018-19 decreases to 53m in 2019-20, then again increases at 112m in 2020-21 then declines with 99-101m during 2021-22 and 2022-23, and decreases to 69m in 2023-24, but returns to 86m in 2024-25, and declines drastically to around 8m in 2025-26.

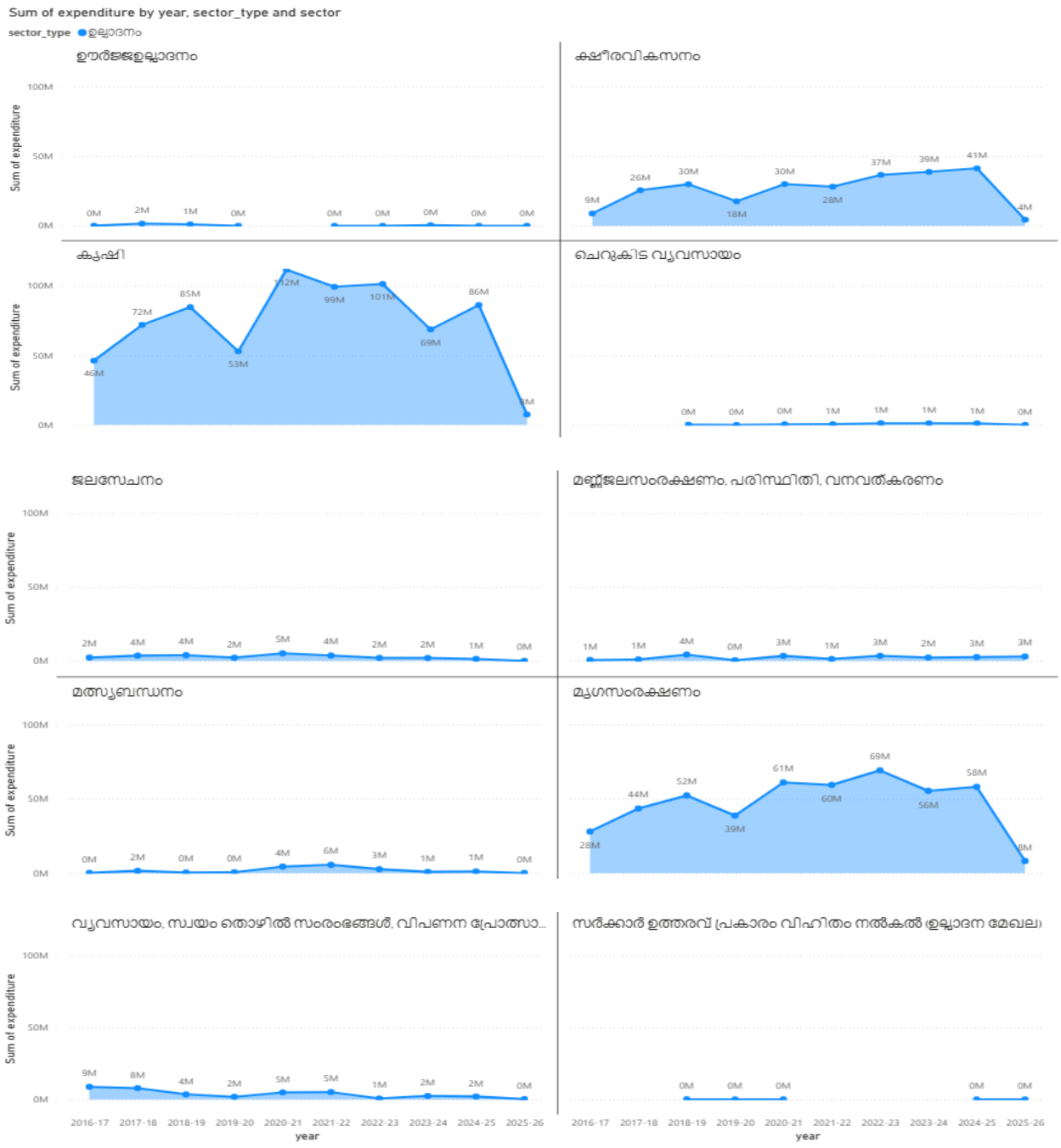
Micro Enterprises stay small and vary between 0 and 1 m during the period. Minor Irrigation has little fluctuation that going up to 2n in 2016-17 to 5m in 2020-21, and 6m in 2021-22, respectively and declining close to zero by 2025-26. Soil and Water Conservation is rather small and fluctuates between 1 and 4 million, but there are slight peaks in 201819 and 2020-21. Fisheries are medium but changing expenditure from 28m in 2016-17 to 52m in 2018-19 falling to 39m in 2019-20, rising to 61m in 2020-21 peaking at 69m in 2022-23, with the lowest expenditure of 8m in 2025-26.

Animal Protection is also low but fluctuating between 1 and 9 million and it is gradually decreasing over the yers. Industry, Self-Employment, and Marketing Promotion are medium in early years that falling from 9m in 2016-17 to 2m in 2023-24 and reaching to 0 by 2025-26. Allocation of Funds as per the Government Order remains small mostly at 0 million throughout the study period.

In this it says the highest proportion of expenditure is in Agriculture and Fisheries with the highest values of 112m and 69m around 2020-21 to 2022-23. All other sub-sectors have values that are mostly below 50m. the drastic reduction in the 2025-26 of the key heads are the signs of a great volatility and concentration of expenditure in the chosen production activities.

FIGURE 4.16

Sum of expenditure by year, sectortype, and sector



Source: primary data

4.2.9 Sum of expenditure by year and sectortype in the infrastructure sector

Figure 4.17 shows a total expenditure (in billion) of 2016-17 to 2025-26 as a sum of the 11 sub-sectors which fall under the Infrastructure sector. We can see there are differences in magnitude, volatility and concentration ofexpenditure.

Related facilities having no expenditure and staying at 0.00 bn without any perceptible change. There is also a low level of Asset Protection, which is mostly at 0.00 bm. Other Public Places showing some expenditure rising from from 0.02 bn in 2016-17 to 0.07 bn in 2017-18 then decreasing to 0.03 bn in 2020-21 and subsequently to 0.01 the following years.

The Transportation sector taking the lead in infrastructure spending. Rises from 0.24 billion in 2016-17 to 0.41bn in 2017-18 and 0.50 bn in 2018-19 and a decline to 0.30bn in 2019-20 and increases to 0.51 bm in 2020-21 and remaining constant in 0.20bn in 2021-22 to 2025-26. The expenditure range on Street Lighting and Office Electrification is very small starting at 0.02 bn in 2016-17 and rising to 0.06 bn in 2020-21, then remaining the same form of 0.02 to 0.04 bn.

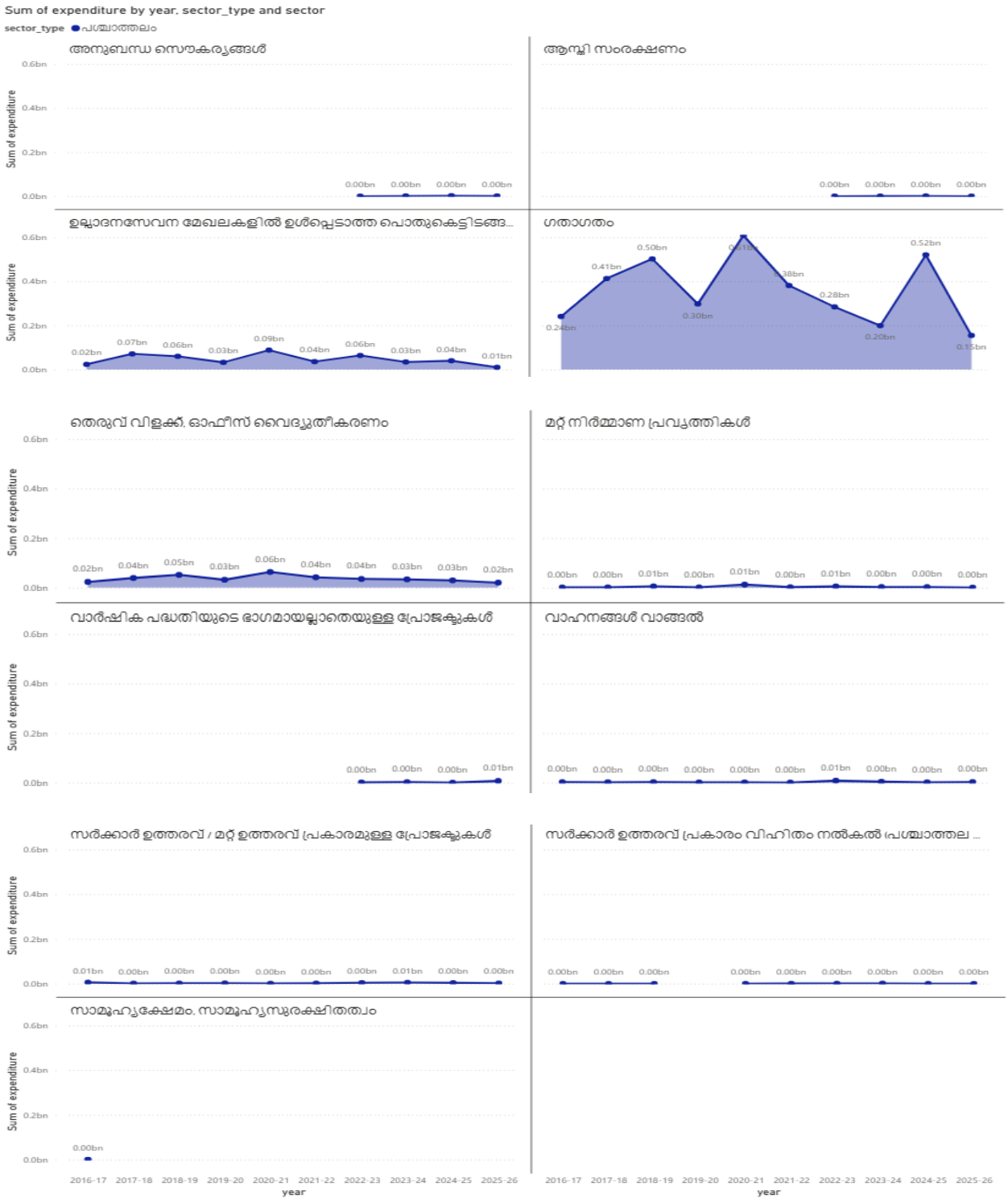
Other Construction Works, as per Government Order are very low at 0.00 to 0.01 bm over the period of the study. Projects not part of the Annual Plan and Vehicle Purchase have is very low expenditure and most of the time at 0. Government Orders, Other Orders, and related projects also vary around 0.01 bn with no drastic changes.

Allocation of Funds as per Government Orders is also minimal at 0.00-0.01 bn during the period. Infrastructure expenditure is minimal in Social Welfare and Social Security that almost at 0.00 bn at all times.

So it says that the biggest category of spending on infrastructure is Transportation with the highest spending at 0.51 bn in 2020-21 and 0.52 in 2024-25 and Public Places are the next category in the group of 0.02-0.09 bn. The rest of the sub-sectors are always less than 0.06 bn in value which shows that the infrastructure expenditure is very much concentrated on activities involving transportation over the period of study.

FIGURE 4.17

Sum of expenditure by year, sectortype, and sector



Source: primary data

4.2.10 Sum of expenditure by year and sectortype in the Service sector

Figure 4.18 shows the total expenditure (in billion) of 2016-17 to 2025-26 in eleven sub-sectors of the Service sector. The trend of years is sshowing differencess in scales, volatility and concentration of expenditure.

Anganwadi expenditure remains relatively constant and varied between 0.04 to 0.06 bn between 2016-17 and 2024-25. followed by a sharp decline to 0.01bn in the year 2025-26. Health expenditure has steadily increasing and reached at 0.04 billion in 2016-17, 0.09 billion in 2020-21, 0.17 billion in 2024-25 and 0.05 billion in 2025-26. Drinking Water has a moderate increase and increased to 0.03 bn in 2016-170.07bn in 2018-19 and 0.09 bn in 2020-21, and decreased to 0.2 bn in 2025-26.

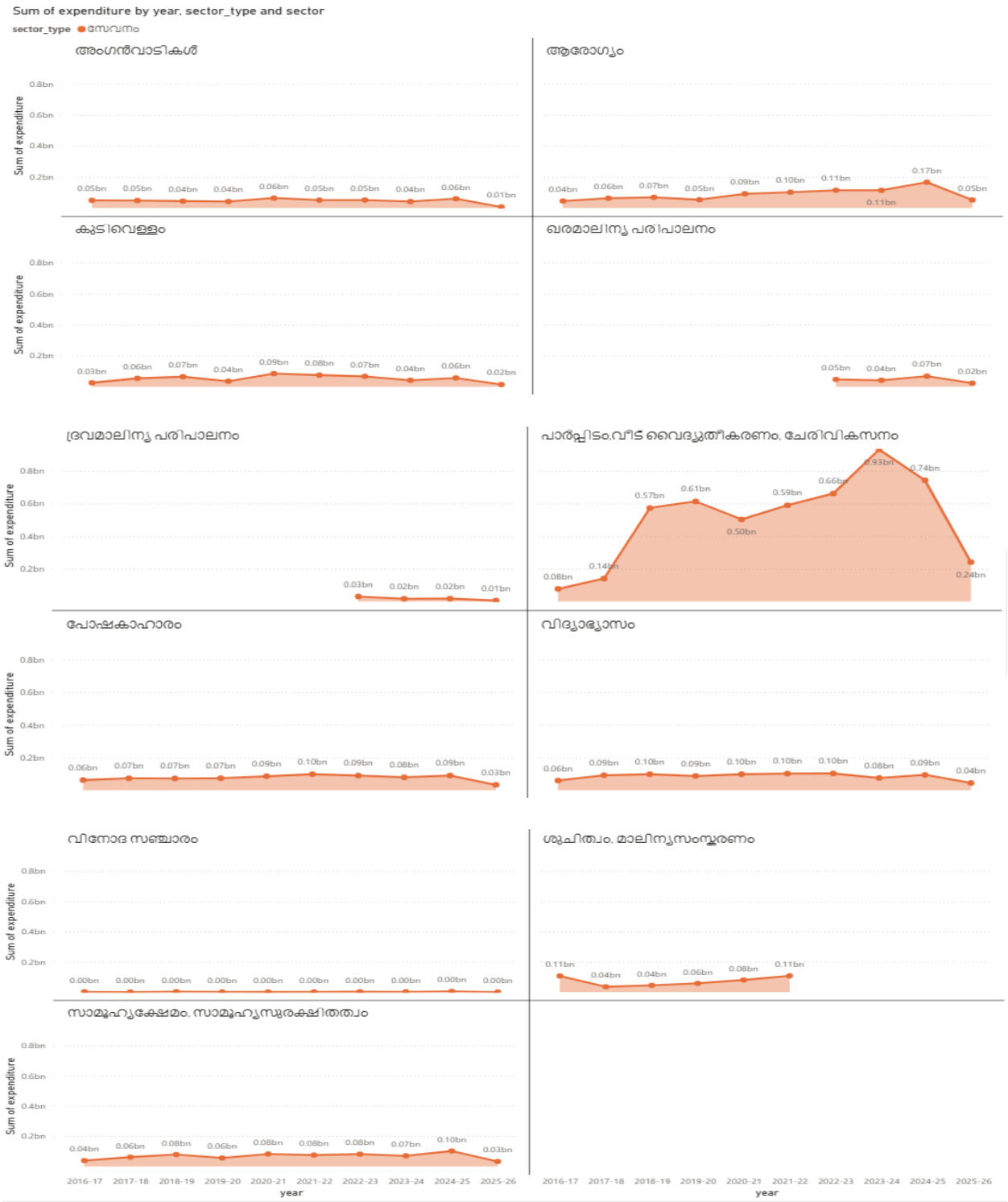
Solid Waste Management is comparatively low and ranges between 0.04 and 0.07 bn throughout the period and concluded with 0.02 bn in 2025-26. There is moderate variation in Liquid Waste Management that starts with 0.05 bn in 2022-23 then rises to 0.07 bn in 2024-25 and falls down to 0.02 bn in 2025-26. Housing, Home Electrification, and Slum Development got the largest expenditure. The change in spending is increases from 0.08 bn in 2016-17 to 0.57 bn in 2018-19 and 0.61 bn in 2019-20 after which it decreases to 0.50bn in 2020-21 to 0.93 bn in 2024-25 and then plunges to 0.24 bn in 2025=26.

Nutrition is low ranging between 0.02 and 0.03 billion during the study period. Education shows the stable spending of 0.06bn to 0.10 bn with the highest expenditure of 0.10 bn in 2021-22 and 2022-23, then decreasing to 0.03 bn in 2025-26. Tourism accounts and is mainly 0.00 bn across. Sanitation and Waste Management gradually increase to 0.06 bn in 2016-17 to 0.11 bn in 2021-22. Social Welfare and Social Security rised by 0.04 bn in 2016-17 to 0.10 bn in 2024-25 and then reduced to 0.03 bn in 2025-26.

In this I recodnized the Housing, Home Electrification, and Slum Development will consume the most significant portion of the expenditure that reaching 0.93 bn in 2024-25. The second is Health and Sanitation within the range of 0.10-0.17 bn.

FIGURE 4.18

Sum of expenditure by year, sectortype and sector



Source: primary data

4.3 Empirical Testing

4.3.1 Introduction

This chapter presents the statistical analysis of regional and sectoral inequalities in the Scheduled Caste development funding in Kerala between 2016-17 and 2025-26. The main aimof the chapter is to test the hypothesis of whether there are any visisble differences in both fund allocation and fund expenditure between regions and sectors.

The analysis is done in two dimensions. To begin with the analysis of regional disparities is performed and compared the allocation of the funds and its expenditures between the central, north and south areas of Kerala. Second, the sectoral differecnes are also examined through a comparison of allocation, expenditures of production, infrastructure and service sectors.

The paired sample t-test has been used to test the existence of statistically significant differences. This approach is suitable since the data are matched yearly observations on regions and sectors in the same year.

The test is used to determine the statistical significance of the mean difference between two related groups. It has adopted a level of significance of 5 percent (α =0.05) to use when testing a hypothesis.

4.3.2 To Analyze Regional Disparities in Fund Allocation and Utilization

To test whether the significant regional diisparities of the Scheduled Caste about fund allocation and fund utilization (expenditure) in the three regions in Kerala; that is, North, Central. And South, during the period 2016-17 to 2025-26, a paired sample t-test was conducted to test the differences in allocation and expenditure across the three regions.

The paired t-test is suitable in this analysis as the data is an observed year-wise matched data of each region during the same period (30 observations).

The level of significance accepted in the research is 5 percent (α =0.05).

Hypothesis Formulation

For each regional comparison, the hypotheses are framed as follows:

Null Hypothesis (H_0):

There is no significant difference in the mean fund allocation/utilization between the two regions.

Alternative Hypothesis (H_1):

There is a significant difference in the mean fund allocation\utilization between the two regions.

A. Fund Allocation in North and Central region.

Table 4.1

North and Central regions

t-Test: Paired Two Sample for Means

Region fundtotal

	north	*central*
Mean	533126971.6	660779982.2
Variance	2.50162E+17	3.75866E+17
Observations	30	30
Pearson Correlation	0.968970071	
Hypothesized Mean Difference	0	
df	29	
t Stat	-3.922051398	
P(T<=t) one-tail	0.000247085	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	0.000494169	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean allocation for the central region (660,779,982.2) is higher than that of the north region (533,126,971.6). The calculated t-value (-3.922) in absolute terms (3.922) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Moreover, the two-tailed p-value (0.000494) is less than 0.05.

Therefore, the null hypothesis of no difference in mean fund allocation between the north and central regions is rejected.

Inference: There exists a statistically significant difference in fund allocation between the north and central regions. The central region receives comparatively higher allocations than the north.

B. Fund Allocation in Central and South region

Table 4.2

Central and South regions

t-Test: Paired Two Sample for Means

Region fundtotal

	central	*south*
Mean	660779982.2	340608390.7
Variance	3.75866E+17	6.98835E+16
Observations	30	30
Pearson Correlation	0.960346415	
Hypothesized Mean Difference	0	
df	29	
t Stat	4.782375097	
P(T<=t) one-tail	2.32176E-05	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	4.64352E-05	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean allocation for the central region (660,779,982.2 is higher than that of the south region (340,608,390.7). the calculated t-value (4.782) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Additionally, the two-tailed p-value (0.000046) is far less than 0.05.

Therefore, the null hypothesis of no difference in mean fund allocation between the central and south regions is rejected.

Inference: There exists a statistically significant difference in fund allocation between the central and south regions. The central region receives comparatively higher allocations than the south.

C. Fund Allocation in South and North Regions

Table 4.3

South and North Regions

t-Test: Paired Two Sample for Means

Region fundtotal

	south	*north*
Mean	340608390.7	533126971.6
Variance	6.98835E+16	2.50162E+17
Observations	30	30
Pearson Correlation	0.974345849	
Hypothesized Mean Difference	0	
df	29	
t Stat	-4.221617175	
P(T<=t) one-tail	0.000109256	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	0.000218513	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean allocation for the north region (533,126,971.6) is higher than that of the south region (340,608,390.7). The calculated t-value (-4.222) in absolute terms (4.222) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Further, the two-tailed p-value (0.000219) is less than 0.05.

Therefore, the null hypothesis of no differences in mean fund allocation between the south and north regions is rejected

Inference: there exists a statistically significant difference in fund allocation between the south and north regions. The north region receives comparatively higher allocation than the south.

A. Fund Expenditure in North and Central Regions

Table 4.4

North and Central Regions

t-Test: Paired Two Sample for Means

Region expenditure

	north	*central*
Mean	199459950.1	217353777.2
Variance	2.84465E+16	3.21131E+16
Observations	30	30
Pearson Correlation	0.971222828	
Hypothesized Mean Difference	0	
df	29	
t Stat	-2.278262258	
P(T<=t) one-tail	0.015130405	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	0.03026081	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean expenditure for the central region (217,353,777.2) is higher than that of the north region (199,459,950.1). The calculated t-value (-2.278) in absolute terms (2.278) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Moreover, the two-tailed p-value (0.0303) is less than 0.05.

Therefore, the null hypothesis of no differences in mean expenditure between the north and central regions is rejected.

Inference: There exists a statistically significant difference in expenditure between the north and central regions. The central region records comparatively higher expenditure than the north.

B. Fund Expenditure in Central and South Regions

Table 4.5

Central and South Regions

t-Test: Paired Two Sample for Means

Region expenditure

	central	*south*
Mean	217353777.2	146400758.9
Variance	3.21131E+16	1.28206E+16
Observations	30	30
Pearson Correlation	0.939040237	
Hypothesized Mean Difference	0	
df	29	
t Stat	4.703702007	
P(T<=t) one-tail	2.8882E-05	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	5.7764E-05	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean expenditure for the central region (217,353,777.2) is higher than that of the south region (146,400,758.9). The calculated t-value (4.704) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Additionally, the two-tailed p-value (0.000058) is far less than 0.05.

Therefore, the null hypothesis of no difference in mean expenditure between the central and south regions is rejected.

Inference: There exists a statistically significant difference in expenditure between the central and south regions. The central region records comparatively higher expenditure than the south.

C. Fund Expenditure in South and North Regions

Table 4.6

South and North Regions

t-Test: Paired Two Sample for Means

Region expenditure

	south	*north*
Mean	146400758.9	199459950.1
Variance	1.28206E+16	2.84465E+16
Observations	30	30
Pearson Correlation	0.969748987	
Hypothesized Mean Difference	0	
df	29	
t Stat	-4.469328764	
P(T<=t) one-tail	5.52565E-05	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	0.000110513	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

The mean expenditure for the north region (199,459,950.1) is higher than that of the south region (146,400,758.9). The calculated t-value (-4.469) in absolute terms (4.469) exceeds the critical value (2.045) at the 5% significance level for a two-tailed test. Furthermore, the two-tailed p-value (0.000111) is less than 0.05.

Therefore, the null hypothesis of no difference in mean expenditure between the south and north regions is rejected.

Inference: There exists a statistically significant difference in expenditure between the south and north regions. The north region records comparatively higher expenditure than the south.

4.3.3 The Findings of the Hypothesis Tests between the Regions show that:

Therefore, we can say that the findings also demonstrate that there is a statistically significant regional difference in the use of funds between all three regions. The trend of spending is as follows:

Central > North > South

This obviously means that the Scheduled Caste development funds are not evenly distributed or used in the areas within the study period.

The results also show that:

The differences in the distribution of the funds are significantly greater between the Central region and the other two regions. North is better compared to South, but the differences between North and South are relatively smaller than the differences between Central and the other regions. These disparities in the utilization of funds (expenditure) are greater than in the allocation, which implies that there are not only differences in the allocation, but also in the efficiency with which they are implemented. Accordingly, the research determines that regional imbalances exist in terms of funding of Scheduled Caste development in Kerala from 2016-17 to 2025-26. The Central region always records the highest allocation and expenditure, whereas the South region is relatively low. This is indicative of differences in structural potential, administrative performance, and patterns of implementation regionally.

4.3.4 To Analyze the Sector-Wise Disparities in Allocation and Expenditure

To examine the sectoral imbalances in the Scheduled Caste development funding in Kerala during 2016-17 to 2025-26, a paired sample t-test was conducted across the three major sectors: Production, Infrastructure, and Service sectors.

The test compares mean differences in both fund allocation and expenditure over 30 matched yearly observations.

Level of significance: 5 percent (α=0.05), degrees of freedom: 29 (n-1)

Hypothesis Formulation

Null Hypothesis (H_0):

There is no significant difference in the mean fund allocation (or expenditure) between the two sectors)

Alternative Hypothesis (H_1):

There is no significant difference in the mean fund allocation (or expenditure) between the two sectors.

A. Fund Allocation in Production and Infrastructure sectors

Table 4.7

Production and Infrastructure

t-Test: Paired Two Sample for Means
sector fund allocation

	Production	*Infrastructure*
Mean	126146938.4	366352891.4
Variance	6.78375E+14	1.04617E+16
Observations	30	30
Pearson Correlation	0.573106921	
Hypothesized Mean Difference	0	
df	29	
t Stat	-14.63061285	
P(T<=t) one-tail	3.18961E-15	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	6.37922E-15	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean Allocation:

Production: 126,146,938.4

Infrastructure: 366,352,891.4

t-stat = -14.63

p-value (two tail) = 6.38E-15 (< 0.05).

Since $p < 0.05$, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund allocation between the Production and Infrastructure sectors. The Infrastructure sector receives substantially higher allocation than the Production sector.

B. Fund Allocation in Infrastructure and Service sectors

Table 4.8

Infrastructure and Service

t-Test: Paired Two Sample for Means
sector fund allocation

	Infrastructure	*Service*
Mean	366352891.4	1042015515
Variance	1.04617E+16	2.71956E+17
Observations	30	30
Pearson Correlation	0.593673751	
Hypothesized Mean Difference	0	
df	29	
t Stat	-7.906497899	
P(T<=t) one-tail	5.07841E-09	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	1.01568E-08	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean allocation:

Infrastructure: 366,352,891.4

Service: 1,042,015,515

t-stat = -7.91

p-value (two tail) = 1.02E-08 (< 0.05).

Since p< 0.05, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund allocation between Infrastructure and Service sectors. The Service sector receives substantially higher allocations than the Infrastructure sector.

C. Fund Allocation in Service and Production sectors

Table 4.9

Service and Production

t-Test: Paired Two Sample for Means
sector fund allocation

	Service	*Production*
Mean	1042015515	126146938.4
Variance	2.71956E+17	6.78375E+14
Observations	30	30
Pearson Correlation	0.721156254	
Hypothesized Mean Difference	0	
df	29	
t Stat	9.972308352	
P(T<=t) one-tail	3.51408E-11	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	7.02815E-11	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean Allocation:

Service: 1,042,015,515

Production: 126, 146,938.4

t-stat = 9.97

p-value (two tail) = 7.03E-11 (< 0.05).

Since p < 0.05, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund allocation between the Service and Production sectors. The Service sector receives substantially higher allocation than the Production sector.

A. Fund Expenditure in Production and Infrastructure sectors

Table 4.10

Production and Infrastructure

sector expenditure

	Production	*Infrastructure*
Mean	52561514.9	151475189
Variance	4.9687E+14	4.06187E+15
Observations	30	30
Pearson Correlation	0.644479105	
Hypothesized Mean Difference	0	
df	29	
t Stat	-10.37354041	
P(T<=t) one-tail	1.42672E-11	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	2.85345E-11	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean Expenditure:

Production: 52,561,514.9

Infrastructure: 151,475,189

t-stat = -10.37

p-value (two tail) = 2.85E-11 (< 0.05),

Since $p < 0.05$, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund expenditure between the Production and Infrastructure sectors. The Infrastructure sector receives substantially higher allocation than the Production sector.

B. Fund Expenditure in Infrastructure and Service sectors

Table 4.11

Infrastructure and Service

t-Test: Paired Two Sample for Means
sector expenditure

	Infrastructure	*Service*
Mean	151475189	359177782.3
Variance	4.06187E+15	2.09704E+16
Observations	30	30
Pearson Correlation	0.411476996	
Hypothesized Mean Difference	0	
df	29	
t Stat	-8.615210818	
P(T<=t) one-tail	8.65661E-10	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	1.73132E-09	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean Expenditure:

Infrastructure: 151,475,189

Service: 359,177,782.3

t-stat = -8.62

p-value (two tail) = 1.73E-09 (< 0.05)

Since $p < 0.05$, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund expenditure between the Infrastructure and Service sectors. The Service sector receives substantially higher allocation than the Infrastructure sector.

C. Fund Expenditure in Service and Production sectors

Table 4.12

Service and Production

t-Test: Paired Two Sample for Means
sector expenditure

	Service	*Production*
Mean	359177782.3	52561514.9
Variance	2.09704E+16	4.9687E+14
Observations	30	30
Pearson Correlation	0.715498726	
Hypothesized Mean Difference	0	
df	29	
t Stat	12.93837665	
P(T<=t) one-tail	7.11923E-14	
t Critical one-tail	1.699127027	
P(T<=t) two-tail	1.42385E-13	
t Critical two-tail	2.045229642	

Note: Paired Sample t-Test (computed using Microsoft Excel)

Mean Expenditure:

Service: 359,177,782.3

Production: 52,561,514.9

t-stat = 12.94

p-value (two tail) = 1.42E-13 (< 0.05).

Since $p < 0.05$, the null hypothesis is rejected.

Inference: there exists a highly significant difference in fund expenditure between the Service and Production sectors. The Service sector receives substantially higher allocation than the Production sector.

4.3.5 The Findings of the Hypothesis Tests between the Sectors show that:

The hypothesis testing results clearly reveal:

1. Significant differences exist in fund allocation across all three sectors.
2. Significant differences also exist in fund expenditure across all sectors.
3. The Service sector dominates both allocation and expenditure
4. The Production sector consistently receives and utilizes the lowest share of funds.

Thus, sectoral disparity in Scheduled Caste development funding is statistically confirmed.

The allocation and expenditure trend follows:

Service Sector > Infrastructure Sector > Production Sector

This suggests that the Scheduled Caste development funding in Kerala during 2016–17 to 2025–26 is more welfare and service-oriented, with comparatively lower emphasis on productive and income-generating activities.

CHAPTER-5

FINDINGS, CONCLUSION, AND RECOMMENDATIONS

5.1 Findings

The study examined the regional and sectoral differences in the allocation and expenditure of funds to develop the Scheduled Caste in Kerala between 2016-17 and 2025-26.

The regional analysis indicates that the Central region was allocated the largest portion of the allocation and expenditure, respectively. as compared to the North and South region. The statistical outcomes show that the there exist major variations between the Central region and the other regions concerning allocation. Though, the difference between the North and South regions in allocation proves to be relatively smaller, all three of the regions were observed to have statistically significant differences in utilization.

The general direction in the distribution and use of funds in different regions will be:

Central > North > South

This trend is a clear indication of existence of inter-regional imbalances in financing of development of the Scheduled Castes.

The sector-wise analysis also reveals the obvious concentration of funds in Service sector, then Infrastructure sector, whereas Production sector was constantly getting the lowest amount of funds and using them. Paired sample t-test establishes statistically significant differences between all the three sectors regarding both allocation and expenditure.

The overall sectoral pattern is:

Service > Infrastructure > Production.

The results also indicate that the utilization disparities are higher than the allocation disparities, which implies that there is a divergence in the implementation capability, administration efficiency, and absorption capacity in the region and sectors.

5.2 Conclusion

The research establishes that there were indeed regional as well as sectoral inequalities in the funding of the Scheduled Caste development in Kerala over the study period. In spite of Kerala being commonly known to have an inclusive development model, the available empirical research

indicates that the patterns of distribution and consumption of development funds is neither spatially nor sectoral balanced.

The Central region has always been in the lead of the allocation and expenditure, but the South region is relatively low. The preponderance of service sector as compared to production sector is a manifestation of the welfare-based approach to development, whereas the comparatively low distribution to production sector suggests the low level of focus on long-term economic empowerment and income-generating activity among the Scheduled Castes.

Thus, even though the development expenditure increases in general, the financing pattern of the Scheduled Caste development in Kerala shows the existence of structural imbalances in regions and sectors. This can affect the fairness, efficiency and sustainability of developmental results.

5.3 Recommendations

Based on the research results, one can suggest the following recommendation:

- The distribution of funds should be made more consistent with the regional distribution and concentration of population of the Scheduled Castes
- It should focus more on the development of production sector to facilitate the generation of livelihood and asset development as well as sustainable economic empowerment.
- The level of administrative efficiency, monitoring systems and capacity to implement the same should be improved to eliminate inequality in the use of funds.
- The SC development planning should be sensitive to the region and balanced to the sector to maintain growth equity, and inclusiveness.
- The Scheduled Caste development programs in Kerala can be effective by ensuring that local and regional disparities are bridged.

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