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PUBLIC EXPENDITURE AND STANDARD OF LIVING OUTCOMES UNDER SDG 1 AND SDG 6: A COMPARATIVE ANALYSIS OF KERALA AND MADHYA PRADESH, INDIA

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Abstract
This paper assesses how public expenditure translates into improvements in standard-of-living outcomes under SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation) through a comparative analysis of Kerala and Madhya Pradesh. Drawing on scheme-level allocation and implementation data from 2011–12 to 2023–24, the study applies an input–output–outcome framework linking public spending under MGNREGA, PMAY-G, SBM-G, Jal Jeevan Mission, and DAY–NRLM to changes in multidimensional poverty. The Multidimensional Poverty Index (MPI) is used as an aggregate outcome measure. The findings suggest that while increased expenditure is associated with improved housing, sanitation, water access, and livelihood security, fiscal outlays alone do not guarantee equivalent outcomes. Institutional capacity, baseline deprivation, and implementation context significantly shape results. The paper argues for context-sensitive fiscal design, stronger local governance capacity, and outcome-based monitoring to enhance the effectiveness of public spending and accelerate progress toward inclusive and sustainable development goals.

3.1 Introduction

Improving the standard of living is a central objective of development policy in India and is closely aligned with the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation).[1] While economic growth has expanded public expenditure on social sector programmes, the translation of such expenditure into tangible improvements in living conditions has varied widely across states.[2] This chapter situates SDG 1 and SDG 6 within a multidimensional conception of standard of living, recognising that poverty reduction and basic service provision extend beyond income to include housing, sanitation, drinking water, employment security, and institutional support.[3]

The chapter adopts a comparative analysis of Kerala and Madhya Pradesh, two states representing contrasting development trajectories. Kerala has achieved high human development outcomes and low levels of multidimensional poverty despite relatively modest income growth, reflecting long-term investments in social development and strong institutional capacity.[4] Madhya Pradesh, in contrast, continues to face widespread multidimensional deprivation and greater dependence on public programmes for basic services, even as public expenditure and economic output have increased. This contrast provides an appropriate framework for examining whether higher public expenditure leads to improved socio-economic indicators under differing baseline conditions.[5]

The central argument advanced in this chapter is that higher public expenditure contributes to improvements in standard-of-living indicators, but the magnitude and pace of improvement depend critically on baseline socio-economic conditions, institutional capacity, and historical deprivation.[6] Consequently, states such as Kerala are able to achieve superior outcomes with lower incremental spending, while states such as Madhya Pradesh require sustained and higher expenditure to attain comparable gains.Methodologically, the chapter analyses scheme-wise expenditure and output indicators linked to SDG 1 and SDG 6, including employment, housing, sanitation, drinking water, and livelihood support. To assess overall changes in standard of living, the Multidimensional Poverty Index (MPI) is incorporated as an aggregate outcome indicator.[7] MPI provides a consolidated measure of multidimensional deprivation and serves to contextualise and validate the scheme-level findings without attributing causality to individual programmes.[8]

Through this integrated approach, the chapter offers a nuanced assessment of the relationship between public expenditure and standard-of-living outcomes, highlighting the importance of context-sensitive policy design in achieving inclusive and sustainable development.[9]

3.2 Conceptualising Standard of Living within SDG 1 and SDG 6

The concept of standard of living extends beyond income to include the material, social, and institutional conditions that enable individuals to live secure, healthy, and dignified lives. In developing economies, standard of living is best understood as a multidimensional construct, closely aligned with the Sustainable Development Goals (SDGs), particularly SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation).

This study adopts a multidimensional approach by focusing on five interrelated dimensions: income and employment security, housing quality, sanitation access, drinking water access, and social and institutional support systems. These dimensions capture both economic and non-economic aspects of deprivation and correspond directly to major public policy interventions in India.

3.2.1 Standard of Living: Dimensions and Indicators

Income and Employment Security: Income and employment security form the foundation of standard of living and are central to SDG 1. Stable employment enables households to meet basic needs, manage economic shocks, and invest in health and education. In rural and informal labour markets, poverty is often characterised by underemployment and income volatility rather than complete joblessness. Therefore, employment-based indicators and programmes such as MGNREGA provide a more meaningful measure of livelihood security than income alone, directly reflecting SDG 1 targets related to social protection and resilience.

Housing Quality: Housing quality is a key indicator of material well-being and asset security. Access to durable housing reduces vulnerability to environmental risks, improves health outcomes, and enhances dignity. In rural India, housing deprivation is closely linked to multidimensional poverty, influencing access to sanitation and basic services. Programmes such as PMAY-G operationalise this dimension, making housing quality a critical indicator of poverty reduction under SDG 1.

Sanitation Access: Sanitation access is central to SDG 6 and essential for health, productivity, and dignity. Lack of sanitation increases disease burden and reinforces poverty traps. The construction of Individual Household Latrines (IHHLs) under SBM-G provides a measurable indicator of improvements in sanitation access. Sanitation thus represents an important intersection between SDG 6 and SDG 1, linking infrastructure provision to poverty reduction

Drinking Water Access: Access to safe drinking water is a core target of SDG 6 and a prerequisite for improved health and productivity. Reliable water supply reduces disease incidence and time burdens, particularly for women. Programmes such as NRDWP and Jal Jeevan Mission operationalise this dimension through household tap connections. Improvements in water access directly support SDG 6 while indirectly advancing SDG 1 through enhanced human capital and reduced vulnerability.

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Social and Institutional Support Systems:Sustained improvements in living standards depend on institutional support mechanisms such as social protection schemes and Self-Help Groups (SHGs). Under DAY–NRLM, SHGs promote financial inclusion, credit access, and livelihood diversification. These institutions strengthen resilience and empowerment, aligning closely with SDG 1. Strong institutional systems also enhance the sustainability of sanitation and water interventions under SDG 6.

Integrating the Dimensions: Together, these five dimensions provide a comprehensive framework consistent with the SDG agenda. Income, housing, and institutional support primarily advance SDG 1, while sanitation and drinking water correspond directly to SDG 6. Importantly, these dimensions are interdependent: improved water and sanitation enhance health and productivity, while stable incomes and institutional support sustain infrastructure gains. This multidimensional framework enables a holistic assessment of how public expenditure influences living standards across diverse state contexts.

3.2.2 Linking Public Expenditure to Living Standards: The Input–Output–Outcome Pathway

Public expenditure is a central instrument for improving living standards, but financial allocations alone do not guarantee socio-economic progress. To examine this relationship systematically, the study adopts an input–output–outcome framework linking public spending to improvements under SDG 1 and SDG 6.

In this framework:

- **Inputs** refer to public expenditure allocated to major schemes such as MGNREGA, PMAY-G, SBM-G, DAY–NRLM, PMGSY, and NRDWP/JJM. These represent the fiscal commitment to employment, housing, sanitation, water supply, and livelihood support.
- **Outputs** denote measurable programme deliverables, including employment generated under MGNREGA, houses constructed under PMAY-G, IHHLs built under SBM-G, household tap connections under JJM, and SHGs promoted under DAY–NRLM. Outputs reflect the scale and efficiency of implementation.
- **Outcomes** capture broader changes in living conditions. At the aggregate level, this study employs the Multidimensional Poverty Index (MPI) as a summary outcome indicator. MPI consolidates deprivations related to housing, sanitation, drinking water, and basic services, reflecting the cumulative impact of public expenditure and programme outputs over time.

By linking inputs to outputs and anchoring the analysis in MPI as an outcome measure, this framework enables a coherent assessment of how public expenditure contributes to improvements in standard of living, while recognising that effectiveness is shaped by baseline conditions and institutional capacity.

3.3 Analytical Framework and Hypotheses

This chapter adopts a simple analytical framework that links public expenditure to standard-of-living outcomes, mediated by baseline socio-economic conditions and governance capacity. While public expenditure is a necessary input for improving living standards, its effectiveness depends on how efficiently resources are translated into programme outputs and sustained through institutional mechanisms. The framework can be summarised as:

Public Expenditure → (Baseline Conditions and Governance Capacity) → Standard-of-

Living Outcomes: Higher spending does not automatically lead to better outcomes because states differ in initial levels of deprivation, administrative capacity, and geographic and social constraints. In high-deprivation contexts, expenditure is often absorbed in basic infrastructure creation, resulting in slower visible improvements. In contrast, states with stronger institutions and higher baseline development can achieve comparable or better outcomes with lower incremental spending.Accordingly, Kerala and Madhya Pradesh are expected to display contrasting expenditure–outcome relationships. Kerala's strong human development base and decentralised governance enable efficient conversion of public expenditure into improved living standards, leading to outcome saturation. Madhya Pradesh, with higher initial deprivation and weaker institutional capacity, requires higher and sustained expenditure to achieve incremental improvements.

Based on this framework, the analysis is guided by the following hypotheses:

- **H1:** Higher public expenditure is associated with improvements in standard-of-living outcomes.
- **H2:** States with stronger baseline conditions achieve better outcomes with lower per-beneficiary expenditure.
- **H3:** States with higher initial deprivation require higher and sustained expenditure to reduce multidimensional poverty.

3.4 Data Sources and Methodology

3.4.1 Data Sources: The study is based entirely on secondary data obtained from official and publicly available sources. Scheme-wise expenditure and output data related to SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation) were collected from Union and State Government budget documents, annual reports, and official dashboards of major Centrally Sponsored Schemes, including MGNREGA, PMAY-G, SBM-G, DAY–NRLM, PMGSY, and NRDWP/Jal Jeevan Mission. State-level socio-economic indicators such as unemployment rate and per capita Net National Income (NNI) at constant prices were sourced from government statistical publications and labour force surveys.To assess overall changes in standard of living, Multidimensional Poverty Index (MPI) data were drawn from National Family Health Survey (NFHS)–based estimates published by NITI Aayog. MPI headcount ratios for Kerala and Madhya Pradesh for 2015–16 (NFHS-4) and 2019–20 (NFHS-5) are used as an aggregate outcome indicator of multidimensional deprivation.

The study period covers 2011–12 to 2023–24 for scheme-level expenditure and output analysis, while MPI is analysed for available benchmark years due to its survey-based nature.

3.4.2 Variables and Indicators

The analysis focuses on key dimensions of standard of living mapped to SDG 1 and SDG 6. The indicators used include:

- **Income and employment security**: Unemployment rate; MGNREGA expenditure and utilisation
- **Housing quality**: Houses completed under PMAY-G
- **Sanitation access:** Individual Household Latrines (IHHL) constructed under SBM-G
- **Drinking water access**: Rural households connected with piped water supply under NRDWP/JJM
- **Social and institutional support**: Self-Help Groups promoted under DAY–NRLM

MPI is used as an aggregate outcome indicator capturing overlapping deprivations related to housing, sanitation, drinking water, and basic services. It serves to validate whether improvements in scheme-level outputs are reflected in broader reductions in multidimensional poverty.

3.4.3 Method of Analysis

The study adopts a comparative analytical approach, examining Kerala and Madhya Pradesh as contrasting state cases. The analysis proceeds in two main stages. First, trend analysis using bar and line graphs is employed to examine changes in scheme-wise budget allocation, output indicators, and utilisation patterns over time. This highlights inter-state differences in scale, timing, and intensity of public expenditure.

Second, per-beneficiary expenditure analysis is used to assess how financial allocations translate into outputs at the beneficiary level. This helps identify efficiency patterns, economies of scale, and variations arising from differing baseline conditions and implementation contexts.

MPI analysis is subsequently used as an outcome-level assessment to contextualise scheme-level findings rather than to establish causal relationships.

4. Literature Review

SDG 1: No Poverty: Drèze & Sen (2013) highlight that despite economic growth, poverty reduction in India has been uneven. They argue that social policies like MGNREGA have helped reduce poverty but call for better implementation. Himanshu (2019) critiques poverty measurement methods, suggesting that multidimensional poverty indices (MPI) better capture deprivation. The study notes improvements but highlights persistent vulnerabilities. World Bank (2018) reports that India lifted around 270 million people out of poverty between 2005-2016, but regional disparities persist, with states like Bihar and Odisha lagging. NITI Aayog (2021) indicates that India's MPI declined from 24.85% (2015-16) to 14.96% (2019-21), yet challenges remain in health, education, and living standards.Government of Kerala (2013) The *Economic Review* highlights Kerala's success in poverty reduction (below 10%) due to high human development, remittances, and social welfare schemes like pensions and PDS. Narayana (2017) discusses Kerala's low poverty rates despite slower economic growth, attributing it to strong public health, education, and social security. NITI Aayog (2021) Kerala has the lowest Multidimensional Poverty Index (MPI) at 0.71%, compared to the national average of 14.96%.Whereas, World Bank (2014) reports that MP had a poverty rate of 31.65% (2011-12), with high rural deprivation due to agricultural dependency. Dreze & Khera (2015) Critiques MP's poor implementation of MGNREGA and PDS, leading to persistent poverty pockets. NITI Aayog (2023) MP's MPI improved but remains high at 14.57%, with malnutrition and poor sanitation contributing to deprivation.

SDG 6: Clean Water and Sanitation: UNICEF & WHO (2015) highlight that while India made progress in sanitation under the Swachh Bharat Mission (SBM), open defecation remains a concern in rural areas. World Bank (2020) reports that India improved rural water access, but groundwater depletion and contamination

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(e.g., arsenic, fluoride) threaten sustainability. Ministry of Jal Shakti (2022) states that Jal Jeevan Mission (JJM) provided tap water to 50% of rural households, but quality monitoring remains weak. Ghosh & Cairncross (2018) argue that SBM improved toilet coverage but behavioural change remains a challenge, affecting health outcomes. Kerala Water Authority (2016) Reports 96% piped water coverage but notes contamination issues (fluoride, bacterial) in some districts. Swachh Bharat Mission (2019) Kerala achieved 100% Open Defecation Free (ODF) status, but septic tank pollution remains a concern. Jal Jeevan Mission Dashboard (2023) Kerala provides 74% of rural households with tap water, but sustainability challenges persist.

UNICEF (2018) MP had low sanitation coverage (58%) pre-SBM, with high open defecation in tribal areas. World Bank (2020) MP improved rural water access under JJM, but only 32% had tap water by 2020 due to groundwater depletion. Ministry of Jal Shakti (2024) MP's tap water coverage rose to 62% (2024), but quality issues (nitrate, fluoride) remain.

3.5 Macro Context: Trends in Union Budget Allocations for SDG 1 and SDG 6

This section provides the macro-fiscal context for the state-level analysis by examining trends in India's Union Budget allocations to sectors contributing directly to SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation). Table 3.1 presents allocations to three key ministries—the Ministry of Rural Development (MoRD), the Ministry of Housing and Urban Affairs (MoHUA), and the Ministry of Jal Shakti (MoJS)—along with their combined expenditure and share in total Union Budget expenditure over the study period.

Table 3.1

Year	Total Receipt of Union Budget	Department of Rural Development (MoRD)	(MoHUA)	Department of Drinking Water & Sanitation (MoJS)	Total	SDG 1&6 % Share in Union Budget
2011-12	1304365	74143.72	1107.6	11005.24	86256.56	6.6
2012-13	1410367	73221.82	1163	14005.24	88390.06	6.3
2013-14	1559447	74477.65	1468.02	15265.7	91211.37	5.8
2014-15	1663673	80093.33	6008.62	15266.85	101368.8	6.1
2015-16	1790783	77369.17	*77369.17	11081.18	88450.35	4.9
2016-17	1975194	95069.39	36946.32	16475.7	148491.41	7.5
2017-18	2141975	108559.63	40061.02	23938.77	172559.42	8.1
2018-19	2315113	111841.88	40611.87	18411.54	170865.29	7.4
2019-20	2686330	122098.19	42054.36	18264.26	182416.81	6.8
2020-21	3509836	196416.71	46700.96	15967.3	259084.97	7.4
2021-22	3793801	160433.46	106840.46	66251.69	333525.61	8.8
2022-23	4193157	176837.39	77310.23	59655.49	313803.11	7.5
2023-24	4443447	171069.46	69270.72	77032.65	317372.83	7.1

Source: Author's graphical representation based on compiled data from official government sources.

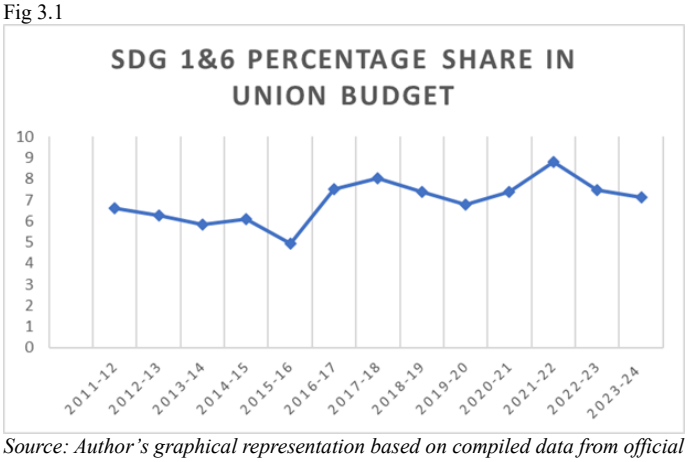
Expansion in Overall Union Budget: India's Union Budget expanded significantly, with total receipts rising from approximately ₹13 lakh crore in 2011–12 to ₹44 lakh crore in 2023–24. This reflects enhanced fiscal capacity, enabling greater investment in social sector and infrastructure programmes.

Allocations to SDG-Related Ministries: Allocations to MoRD and MoJS show a steady upward trend, indicating sustained emphasis on rural development, employment, water supply, and sanitation. In contrast, MoHUA allocations display greater inter-year variation, with notable increases after 2016–17 following the expansion of major urban initiatives such as the Swachh Bharat Mission (Urban), AMRUT, and the Smart Cities Mission. These patterns reflect growing integration of urban and rural infrastructure priorities within the SDG framework.

Growth in SDG 1 and SDG 6 Expenditure: Combined allocations toward SDG 1 and SDG 6 increased from ₹86,256 crore in 2011–12 to ₹3.17 lakh crore in 2023–24, highlighting the central role of poverty reduction, housing, and water and sanitation access in national policy priorities.

Share in the Union Budget: The share of total Union Budget expenditure directed toward SDG 1 and SDG 6 ranged between 5 and 9 per cent, reaching a peak of 8.9 per cent in 2021–22. The rise after 2016–17 coincides with the scaling up of flagship programmes such as Swachh Bharat Mission, Jal Jeevan Mission, PMAY, and expanded rural employment initiatives. Overall, these trends indicate a strengthening national fiscal commitment to SDG 1 and SDG 6, providing the macro-level context for the subsequent state-level analysis of Kerala and Madhya Pradesh.

Fig 3.1



Source: Author's graphical representation based on compiled data from official government sources.

3.6 Scheme-wise Allocation Patterns: Kerala and Madhya Pradesh

This section examines the scheme-wise allocation patterns under major Centrally Sponsored Schemes linked to SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation) for Kerala and Madhya Pradesh. This helps in providing a fiscal context for the subsequent analysis of standard-of-living outcomes.

The schemes covered include MGNREGA, PMAY-G, SBM-G, DAY–NRLM, PMGSY, and NRDWP/Jal Jeevan Mission, which together constitute the principal channels of public intervention in employment, housing, sanitation, drinking water, and rural connectivity.

Table 4.1

	SBM-G		PMAY-G		PMAY-U		Total PMAY		MGNREGA		DAY-NRLM		PMGSY		NRDWP/ JJM		DDU-GKY	
Years	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP	Kerala	MP
2011-12									95105.43	296851.28	36.93	112.54	19.34	1797.94	113.39	292.78		
2012-13	0	257.8							131117.81	161015.37	35.86	99	7.94	834.62	249.04	539.56		
2013-14	43.01	660.39							127710.93	183982.44	45.37	93.05	55.4	1753.84	212.04	474.95		
2014-15	33.97	0							158758.02	245163.12	677.17	4719	151.41	708	124.1	440.18	4534.00	0
2015-16	8.5	220.28							152633.88	236732.2	1005.64	2709.81	151	1122	48.05	193.73	139	188
2016-17	196.28	1210.77	10049.44	170114.87	100.67	95.08	10150.11	170209.9	158248.96	344891.62	511.88	3097.82	179.45	1979.48	75.22	232.26	4597.71	6197.87
2017-18	0	369.56	2140.78	487626.83	263.86	2362.87	2404.64	489989.7	108778.66	226116.89	5004.07	10596.52	169.13	1308.45	95.16	135.51	3347.29	0
2018-19	12.47	409.74	0	425042.66	660.88	2722.59	660.88	427765.25	235473.91	470864.71	6925.01	8381.6	105.88	1057.49	84.86	243.62	9842.50	3799.75
2019-20	141.4	2416.1	0	229197.58	265.94	1044.94	265.94	230242.52	219895.7	380446	3463.08	23237.89	48.64	1308.97	101.29	571.6	0	11558.00
2020-21	103.73	291.48	0	4,565.80	198.66	2415.87	198.66	6981.67	428677.68	908672.51	7811.16	19570.83	89.97	1099.54	303.18	960.09	16381.56	319.33
2021-22	103.73		0	4,509.58	378.83	2002.62	378.83	6512.2	355199	847909	7309.1	24417.18	0	1392.25	1353.44	3837.59	0	0
2022-23	308.04	411.14	94.63	11,171.29	33.92	1249.03	128.55	12420.32	381843	570213	10966.32	48846.28	106.76	1557.47	551.64	0	0	2096.97
2023-24	0	184.56			225.48	1280.27	225.48	1280.27	351348	587114	10966.32	24423.14	54.25	599.42	1342.36	10297.86	0	2168.51

Source: *Author's compilation based on official scheme dashboards and annual reports of Government of India.*

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Across the study period, Madhya Pradesh consistently received higher absolute allocations than Kerala across most schemes. This reflects MP's larger rural population, higher levels of poverty and deprivation, and greater infrastructure deficits. Kerala's allocations, by contrast, are comparatively lower and show greater inter-year variation, consistent with its smaller population base and relatively advanced social development. Higher allocations to MP therefore indicate needs-based fiscal targeting rather than preferential treatment, as states with deeper structural deficits require proportionately larger funding support.

Employment and Livelihood Schemes (MGNREGA and DAY–NRLM)Under MGNREGA, Madhya Pradesh records substantially higher allocations, reflecting greater reliance on public employment in a predominantly agrarian economy. Kerala's allocations are lower but show periodic increases during labour market stress, suggesting that MGNREGA functions primarily as a safety net rather than a main income source.Similarly, DAY–NRLM allocations are higher in MP, reflecting the need to expand SHG networks and strengthen livelihood institutions. In Kerala, lower allocations correspond to the presence of a mature SHG ecosystem, where funding is directed more toward consolidation than expansion.

Housing and Sanitation Schemes (PMAY-G and SBM-G)PMAY-G allocations highlight significant contrasts. Madhya Pradesh receives higher funding due to widespread rural housing shortages, whereas Kerala's lower and more variable allocations reflect limited housing deficits and targeted interventions, including post-disaster reconstruction in specific years.

Under SBM-G, MP again receives larger allocations, particularly during mission-mode implementation phases, consistent with greater sanitation gaps. Kerala's comparatively modest allocations reflect higher pre-existing coverage and a focus on gap-filling rather than large-scale expansion.

Drinking Water and Connectivity Schemes (NRDWP/JJM and PMGSY)Following the launch of Jal Jeevan Mission, allocations increased in both states; however, MP received substantially larger funding due to greater rural water infrastructure gaps and geographic dispersion. Kerala's lower allocations reflect quicker coverage expansion supported by denser settlement patterns and existing infrastructure.

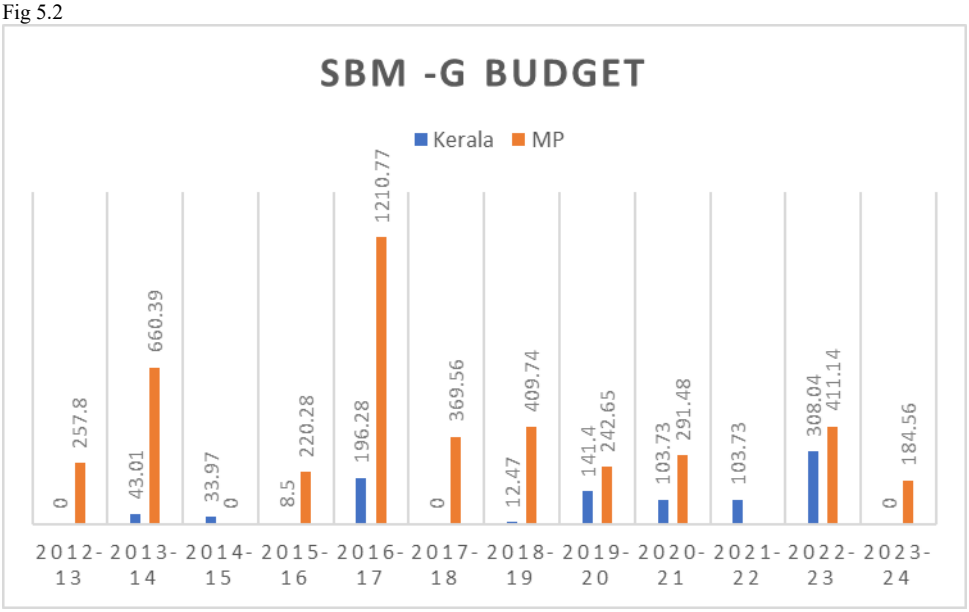
Similarly, PMGSY allocations are higher in MP, reflecting the need to improve rural connectivity across a larger territory, while Kerala's relatively better baseline connectivity limits additional funding requirements.

3.7 Standard of Living Outcomes: Comparative Results

3.7.1 Sanitation Outcomes: Individual Household Latrines (IHHL) under Swachh Bharat Mission–Gramin

Sanitation constitutes a fundamental dimension of standard of living and is central to SDG 6 (Clean Water and Sanitation). The Swachh Bharat Mission–Gramin (SBM-G) focuses on eliminating open defecation through the construction of Individual Household Latrines (IHHLs), particularly in rural and socio-economically disadvantaged regions. This subsection analyses sanitation outcomes in Kerala and Madhya Pradesh using IHHL coverage, scheme-wise budget allocation, and funds utilised per beneficiary.

Fig 5.2



Source: *Author's representation based on compiled data from official government sources.*

Trends in IHHL Coverage

Table 5.2.1 presents year-wise data on SBM-G budget allocation, number of IHHLs constructed, and funds utilised per beneficiary in Kerala and Madhya Pradesh from 2012–13 to 2023–24.

Table 5.2.1

	SBM-G					
Year	Kerala	MP	IHHL Gramin Kerala	Funds utilized per benificeries K	IHHL Gramin MP	Funds utilized per benificeries MP
2011-12			2188		900769	
2012-13	40.28	257.8	4766	0.008451532	323054	0.000798009
2013-14	43.01	660.39	39601	0.001086084	515583	0.001280861
2014-15	33.97	0	25214	0.001347267	311827	0
2015-16	8.5	220.28	11194	0.000759335	723062	0.000304649
2016-17	196.28	1210.77	194426	0.001009536	913207	0.001325844
2017-18	0	369.56	0	#DIV/0!	2353874	0.000157001
2018-19	12.47	409.74	2	6.235	749400	0.000546757
2019-20	141.4	242.65	637	0.221978022	4,46,902	0.00054296
2020-21	103.73	291.48	7,413	0.013992985	59,270	0.004917834
2021-22	103.73		5105	0.020319295	236113	0
2022-23	308.04	411.14	4794	0.064255319	1,94,294	0.002116072
2023-24	0	184.56	1891	0	197532	0.00093433
			R–0.258			
			p-value 0.444			

Source: *Author's calculation using scheme-level expenditure and output data from SBM-G Budget (various years).*

In Kerala, IHHL construction displays episodic patterns, with a sharp spike during 2016–17, when approximately 1.94 lakh units were constructed. This reflects a concentrated sanitation drive aligned with the national ODF push. In subsequent years, IHHL construction declines sharply, indicating that sanitation coverage had largely reached saturation, and SBM-G functioned mainly as a gap-filling intervention.

In contrast, Madhya Pradesh exhibits consistently high IHHL construction volumes, particularly during 2016–17 and 2017–18, when construction reached 9.1 lakh and 23.5 lakhunits, respectively. These figures reflect the state's large rural population, historically high open defecation rates, and substantial sanitation deficits.

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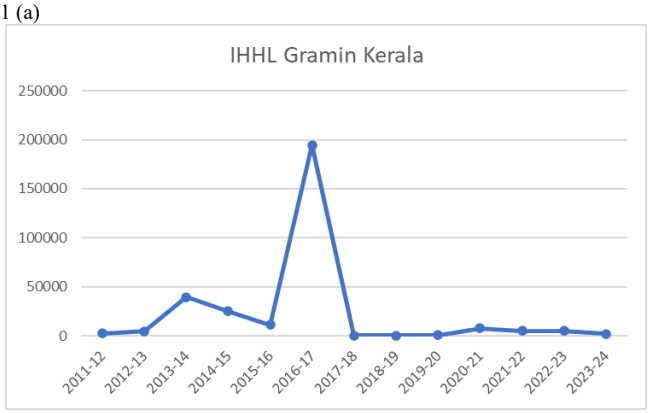
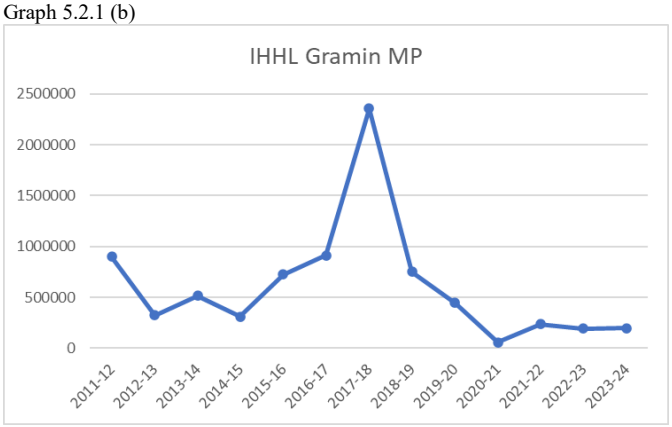
The contrasting IHHL trends are illustrated in Figure 5.2.1(a) for Kerala and Figure 5.2.1(b) for Madhya Pradesh.

Graph 5.2.1 (a)



Graph 5.2.1 (b)



Source: Author's graphical representation based on compiled data from official government sources.

Funds Utilised per Beneficiary. Kerala's funds utilised per beneficiary show extreme inter-year variability, largely driven by sharp fluctuations in the number of IHHLs constructed. During years of high construction, per-beneficiary expenditure remains low, indicating economies of scale. Conversely, in years with very few IHHL units, the ratio becomes inflated, reflecting denominator effects rather than genuine increases in cost.

Madhya Pradesh displays a comparatively stable pattern of per-beneficiary utilisation, reflecting continuous sanitation expansion. While per-beneficiary costs rise in certain years, particularly when construction slows, this trend reflects the higher costs of extending sanitation coverage to remote, tribal, and geographically dispersed areas.

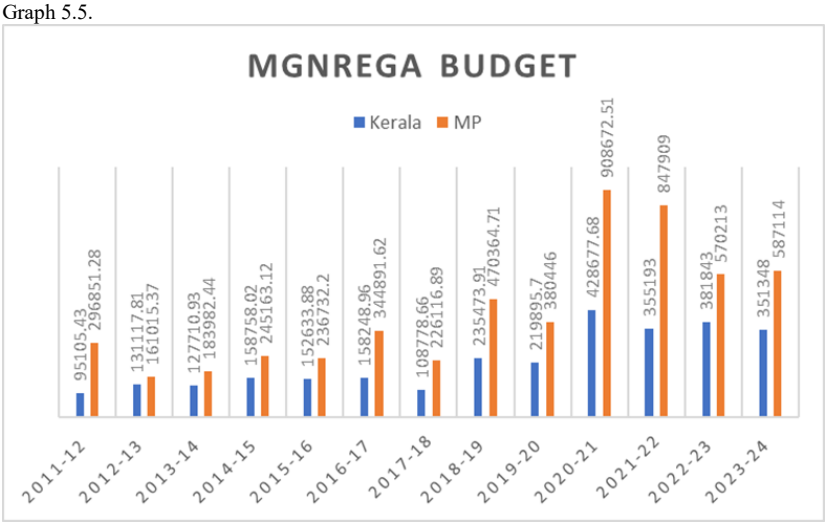
Interpretation: Scale, Saturation, and Efficiency. The sanitation outcomes reveal a clear scale–efficiency trade-off. Kerala's sanitation achievements are driven by high baseline coverage, strong local governance, and behavioural acceptance, enabling efficient sanitation delivery with relatively low additional expenditure. Madhya Pradesh, by contrast, requires sustained and higher spending to overcome structural sanitation deficits and geographic challenges.

These findings demonstrate that sanitation performance depends not only on financial allocation but also on baseline conditions, implementation scale, and institutional capacity. Kerala achieves sanitation objectives with limited incremental spending due to prior investments and strong governance, whereas Madhya Pradesh requires sustained fiscal support to achieve comparable outcomes. These results underscore the importance of context-sensitive sanitation policy design under SDG 6.

3.7.2 Employment and Livelihood Security: MGNREGA and Unemployment

Employment security is a central pillar of SDG 1 (No Poverty), particularly in rural economies characterised by seasonal employment, agrarian distress, and informal labour markets. The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) plays a critical role as a demand-driven social protection programme by providing wage employment during periods of labour market stress. This subsection examines the relationship between MGNREGA budget allocation, unemployment rates, and funds utilised per beneficiary in Kerala and Madhya Pradesh from 2011–12 to 2023–24.

Graph 5.5.



Source: Author's graphical representation based on compiled data from MGNREGA budget

Trends in Unemployment and MGNREGA Allocation

Table 5.2.2 presents year-wise data on MGNREGA budget allocation, unemployment rates, and funds utilised per beneficiary for Kerala and Madhya Pradesh.

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Table 5.2.2

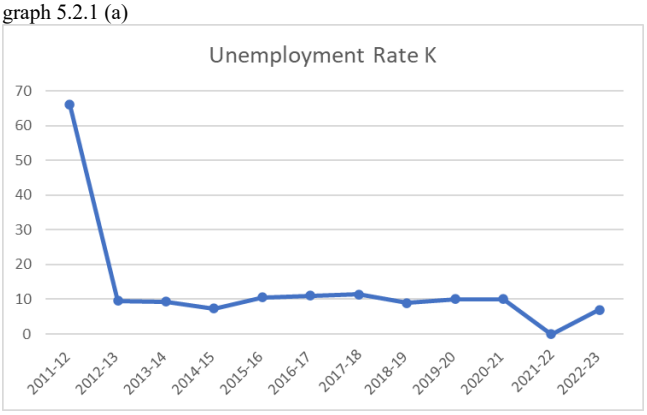
	MGNREGA Budget						
Years	Kerala	MP	Unemployment Rate K	Funds utilized per benificeries in employment rate in Kerala	Unemploymenr Rate MP	Funds utilized per benificeries in Unemployment rate in MP
2011-12	95105.43	296851.3	66	1440.991364	9	32983.47556
2012-13	131117.8	161015.4	9.6	13658.10521	1.8	89452.98333
2013-14	127710.9	183982.4	9.3	13732.35806	2.3	79992.36522
2014-15	158758	245163.1	7.4	21453.78649	1.2	204302.6
2015-16	152633.9	236732.2	10.6	14399.42264	3	78910.73333
2016-17	158249	344891.6	11.1	14256.66306	4	86222.905
2017-18	108778.7	226116.9	11.4	9541.987719	4.3	52585.32326
2018-19	235473.9	470364.7	9	26163.76778	3.5	134389.9171
2019-20	219895.7	380446	10	21989.57	3	126815.3333
2020-21	428677.7	908672.5	10.1	42443.33465	1.9	478248.6895
2021-22	355193	847909		#DIV/0!	1.6	529943.125
2022-23	381843	570213	7	54549		#DIV/0!
2023-24	351348	587114		#DIV/0!		#DIV/0!
				R- 0.952, p-value 0.0000219		R- 0.879, p-value 0.000816

Source: Author's calculation using scheme-level expenditure and output data from MGNREGA Budget (various years).

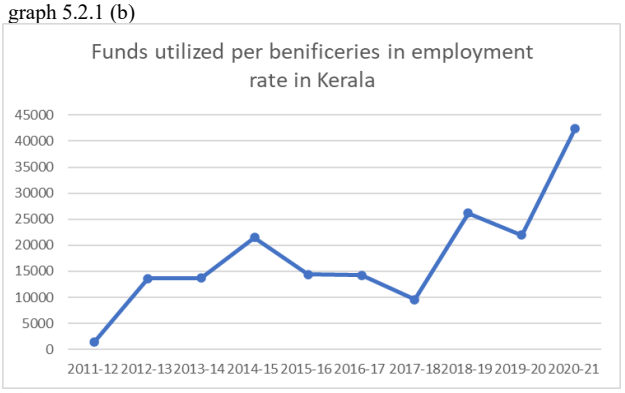
Kerala exhibits persistently higher unemployment rates throughout the study period. Unemployment is exceptionally high in 2011–12, followed by stabilisation in the range of 7–11.4 per cent in subsequent years. This pattern reflects Kerala's unique labour market structure, characterised by high educational attainment, labour force participation mismatches, and limited absorption capacity in the formal sector.In contrast, Madhya Pradesh reports consistently low unemployment rates, largely ranging between 1.2 and 4.3 per cent. These figures reflect differences in labour market composition, higher engagement in informal and self-employment, and limitations of open unemployment as an indicator of livelihood vulnerability in agrarian economies.

The temporal trends in unemployment and MGNREGA allocations are illustrated in Figure 5.2.2(a) for Kerala and Figure 5.2.2(b) for Madhya Pradesh.

graph 5.2.1 (a)



graph 5.2.1 (b)



Source: *Author's graphical representation based on compiled data from official government sources.*

Funds Utilised per Beneficiary: Kerala.Kerala's funds utilised per beneficiary under MGNREGA display considerable year-to-year variation, closely aligned with fluctuations in unemployment levels. Periods of higher unemployment correspond to increased utilisation, indicating that MGNREGA functions effectively as a counter-cyclical employment buffer. Notably, utilisation levels rise sharply during years of labour market stress, including 2014–15, 2018–19, and 2020–21, the latter coinciding with the economic disruption caused by the COVID-19 pandemic. This pattern suggests a strong responsiveness of MGNREGA participation to employment distress in Kerala, reinforcing its role as a safety-net programme rather than a permanent income source.

Years with missing unemployment data (2021–22 and 2023–24) generate undefined utilisation ratios and are excluded from interpretation.

Funds Utilised per Beneficiary: Madhya Pradesh. Madhya Pradesh exhibits consistently higher funds utilised per beneficiary under MGNREGA despite reporting relatively low unemployment rates. Several years, such as 2014–15 and 2020–21, record exceptionally high utilisation values, indicating substantial dependence on MGNREGA for income support. This apparent divergence between low unemployment and high MGNREGA utilisation underscores the limitations of open unemployment as a measure of livelihood insecurity in rural, agrarian economies. In MP, MGNREGA serves not only as a response to unemployment shocks but also as a structural income stabilisation mechanism during periods of agrarian distress, seasonal underemployment, and low agricultural wages.

Interpretation: Differential Role of MGNREGA across States. The contrasting utilisation patterns reveal state-specific functions of MGNREGA. In Kerala, the programme operates primarily as a short-term employment buffer, activated during periods of labour market stress. In Madhya Pradesh, MGNREGA plays a structural role, supplementing household incomes in a context of chronic rural vulnerability and limited alternative employment opportunities. These differences highlight how the same centrally sponsored scheme adapts to divergent socio-economic realities across states. Overall, the analysis demonstrates that MGNREGA plays distinct yet critical roles in both states. Kerala's utilisation patterns indicate a responsive safety-net mechanism linked to unemployment fluctuations, while Madhya Pradesh's consistently high utilisation reflects structural dependence on public employment for income stabilisation. The strong and significant correlations observed in both states confirm that MGNREGA effectively converts budgetary inputs into employment support, though the nature of this support varies according to state-specific labour market conditions.

3.7.3 ***Income Context: Per Capita NNI and MGNREGA Utilisation.***Income levels provide an essential macroeconomic context for interpreting livelihood security and poverty outcomes under SDG 1 (No Poverty). Per capita Net National Income (NNI) at constant prices reflects long-term income growth and economic capacity, while MGNREGA utilisation captures short-term livelihood support mechanisms. Examining these indicators together helps assess whether public employment schemes function as temporary income buffers or as structural livelihood supports. Hence, the subsection analyses the relationship between per capita NNI and MGNREGA fund utilisation per beneficiary in Kerala and Madhya Pradesh from 2011–12 to 2023–24.

Trends in Per Capita NNI

Table 5.2.3 presents year-wise data on MGNREGA budget allocation, per capita NNI (constant prices), and funds utilised per beneficiary for Kerala and Madhya Pradesh.

Table 5.2.3

	MGNREGA Budget					
Years	Kerala	MP	Per Capita NNI at Constant Prices Kerala	Funds utilized per benificeries in Per capita NNI in Kerala	Per Capita NNI at Constant Prices MP	Funds utilized per benificeries in Per capita NNI in Kerala
2011-12	95105.43	296851.3	97912	0.971335791	38497	7.711023716
2012-13	131117.8	161015.4	103551	1.266214812	41142	3.913649555
2013-14	127710.9	183982.4	107842	1.184241112	42548	4.324114882
2014-15	158758	245163.1	112444	1.411885205	44027	5.568472074
2015-16	152633.9	236732.2	120387	1.267860151	47351	4.99951849
2016-17	158249	344891.6	129251	1.224353854	52782	6.534265848
2017-18	108778.7	226116.9	137181	0.792957188	54824	4.124414308
2018-19	235473.9	470364.7	147347	1.598090969	59005	7.97160766
2019-20	219895.7	380446	147693	1.488870156	60454	6.29314851
2020-21	428677.7	908672.5	132531	3.234546483	56037	16.21558096
2021-22	355193	847909	94054	3.776479469	61011	13.89764141
2022-23	381843	570213	152870	2.49782822	63681	8.954209262
2023-24	351348	587114	161957	2.169390641	67301	8.723703957

Source: *Author's calculation using scheme-level expenditure and output data from MGNREGA budget*

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Kerala exhibits a steady and substantial increase in per capita NNI over the study period, rising from approximately ₹97,912 in 2011–12 to ₹1,61,957 in 2023–24. This sustained income growth reflects Kerala's higher human development, remittance inflows, and diversified non-agricultural employment base.
Madhya Pradesh also records a consistent upward trend in per capita NNI, increasing from around ₹38,497 to ₹67,301 during the same period. However, MP's income levels remain significantly lower than Kerala's throughout the study period, indicating persistent inter-state income disparities.
The income trends are illustrated in Figure 5.2.3(a) for Kerala and Figure 5.2.3(b) for Madhya Pradesh.
Figure 5.2.3(a)

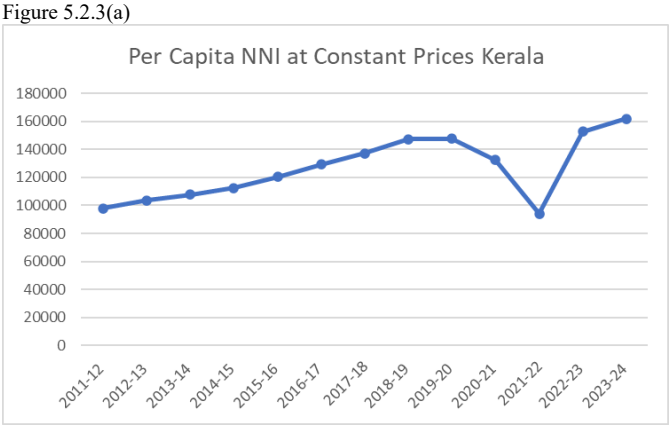
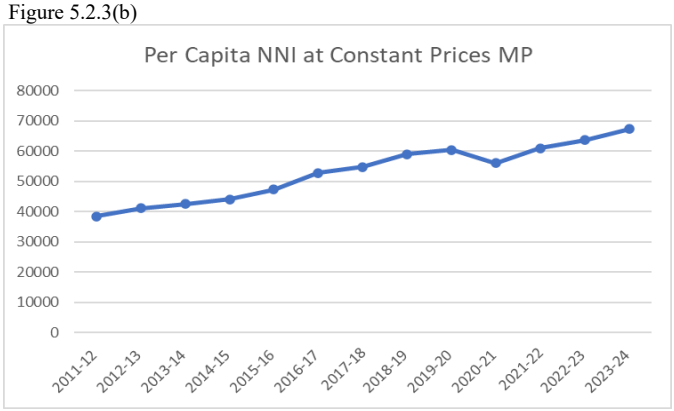


Figure 5.2.3(b)



Source: Author's graphical representation based on compiled data from official government budget.

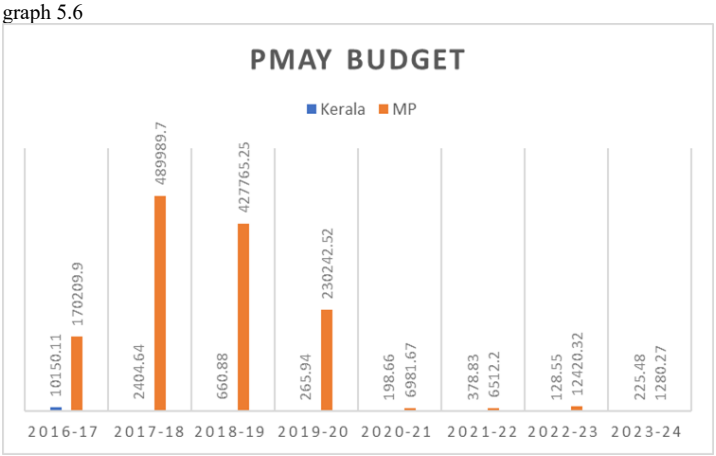
Funds Utilised per Beneficiary: Kerala. Kerala's MGNREGA funds utilised per beneficiary show moderate variation across years, remaining relatively stable despite continuous growth in per capita NNI. Utilisation values typically range between 0.79 and 3.77, with higher values observed during periods of economic stress or transition, such as 2020–21 and 2021–22.This pattern suggests that even as income levels rise, MGNREGA continues to play a supportive and counter-cyclical role in Kerala's labour market. The scheme supplements household incomes during shocks rather than serving as a primary livelihood source. Rising per capita NNI does not crowd out MGNREGA participation, indicating that income growth in Kerala is unevenly distributed across occupational groups, particularly among rural and informal workers.

Funds Utilised per Beneficiary: Madhya Pradesh. In Madhya Pradesh, funds utilised per beneficiary under MGNREGA are consistently higher than in Kerala, with values ranging from 4.12 to 16.21. The highest utilisation is recorded in 2020–21, coinciding with both pandemic-related disruption and agrarian stress.
Despite steady growth in per capita NNI, high per-beneficiary utilisation persists, suggesting that income growth in MP has not translated into sufficient livelihood security for large sections of the rural population. Instead, MGNREGA continues to function as a structural income stabiliser, compensating for low agricultural wages, seasonal employment, and limited non-farm opportunities.
The divergence between rising per capita income and sustained MGNREGA dependence highlights the limitations of average income indicators in capturing rural vulnerability and underemployment.

Interpretation: Income Growth versus Livelihood Security. The relationship between income levels and MGNREGA use shows different patterns in Kerala and Madhya Pradesh. In Kerala, income levels are relatively high, but MGNREGA is still used at moderate levels. This suggests that the scheme mainly acts as temporary support when people need extra income. In Madhya Pradesh, even though income levels are rising, many people continue to depend heavily on MGNREGA. This indicates that income growth has not been enough to reduce livelihood insecurity for rural households.These patterns underscore that economic growth alone does not guarantee livelihood security. The effectiveness of growth in reducing poverty depends on employment quality, sectoral composition, and institutional capacity to absorb labour into productive activities. Hence strong correlations between budget allocation and utilisation in both states reinforce the importance of MGNREGA as a flexible and responsive instrument of income support under SDG 1.

3.7.4 Housing Security: Pradhan Mantri Awas Yojana–Gramin (PMAY-G)

Housing security is a fundamental determinant of standard of living and a key component of SDG 1 (No Poverty). Access to durable housing enhances physical safety, health outcomes, asset ownership, and social dignity, particularly among rural and economically vulnerable households. The Pradhan Mantri Awas Yojana–Gramin (PMAY-G) aims to address rural housing deprivation by providing financial assistance for the construction of pucca houses for eligible households.
graph 5.6



Source: Author's graphical representation based on compiled data from PMAY budget

This subsection analyses PMAY-G outcomes in Kerala and Madhya Pradesh using the total number of houses completed, budget allocation, and funds utilised per beneficiary from 2011–12 to 2023–24.

Trends in Housing Completion under PMAY-G

Table 5.2.4 presents year-wise data on PMAY-G budget allocation, total houses completed, and funds utilised per beneficiary for Kerala and Madhya Pradesh.
Table 5.2.4

	PMAY-G Budget					
Years	Kerala	MP	Total Houses completed in PMAY -G Kerala	Funds utilized per benificeries in Kerala	Total Houses completed in PMAY -G MP	Funds utilized per benificeries MP
2016-17	10150.11	170209.9	200	50.75055		#DIV/0!
2017-18	2404.64	489989.7	645795	0.003723535	48	10208.11875
2018-19	660.88	427765.3	706960	0.00093482	9444	45.2949227
2019-20	265.94	230242.5	273641	0.000971857	6519	35.31868692
2020-21	198.66	6,981.67	261939	0.000758421	779	8.962349166
2021-22	378.83	6,512.20	608742	0.000622316	686	9.493002915
2022-23	128.55	12,420.32	223357	0.000575536	2440	5.090295082
2023-24	225.48	1280.27			511	2.505420744

Source: Author's calculation using scheme-level expenditure and output data from PMAY-G Budget (various years).

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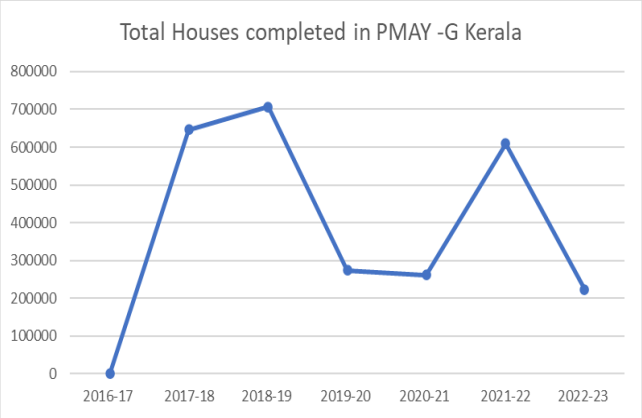
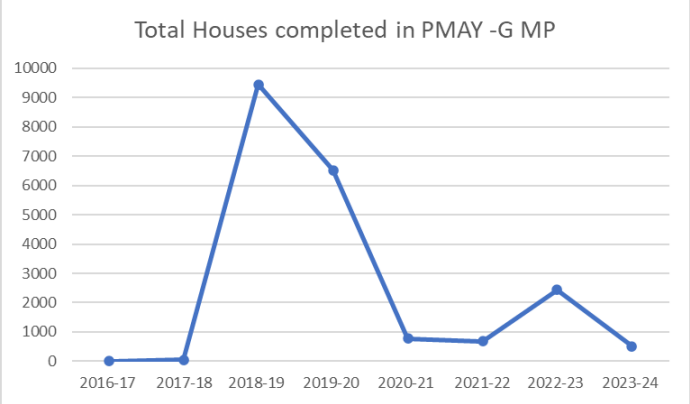
Kerala records highly uneven housing completion patterns across the study period. In the initial years, the number of houses completed remains extremely low, reflecting limited rural housing shortages and stringent beneficiary targeting. A sharp increase is observed in 2017–18 and again in 2021–22, when housing completion exceeds six lakh units, largely driven by accelerated implementation and post-disaster reconstruction following the 2018 floods.
In contrast, Madhya Pradesh exhibits a more continuous and structured pattern of housing construction under PMAY-G. Although the absolute number of houses completed varies across years, the state consistently reports higher completion levels than Kerala, reflecting its larger rural population, higher incidence of kutcha housing, and deeper housing deprivation.

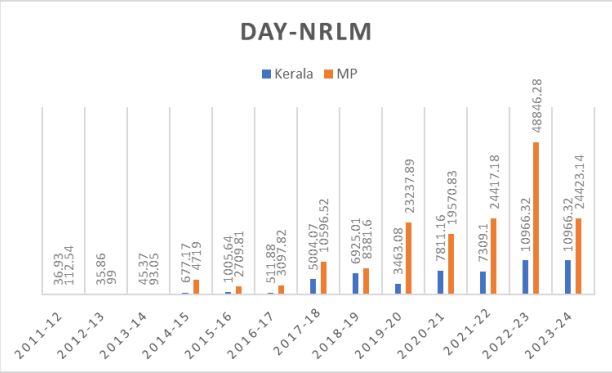
These trends are illustrated in Figure 5.2.4(a) for Kerala and Figure 5.2.4(b) for Madhya Pradesh.
graph 5.2.4 (a)



Graph 5.2.4 (b)



Source: *Author's graphical representation based on compiled data from PMAY-G*
Funds Utilised per Beneficiary: Kerala.Kerala's funds utilised per beneficiary under PMAY-G display extreme volatility, driven primarily by sharp fluctuations in the number of houses completed. In years where only a small number of houses are constructed—such as 2016–17, when only 200 houses were completed the per-beneficiary utilisation rises disproportionately, producing inflated cost ratios.
Conversely, in years with large-scale housing completion, particularly 2017–18 and 2021–22, the per-beneficiary utilisation declines sharply, indicating significant economies of scale. This pattern suggests that Kerala's housing expenditure efficiency improves substantially when PMAY-G is implemented at scale, whereas low-output years generate misleadingly high per-beneficiary cost estimates.
Overall, Kerala's utilisation pattern reflects a saturation-stage housing regime, where PMAY-G operates as a selective and targeted intervention rather than a mass housing programme.
Funds Utilised per Beneficiary: Madhya Pradesh.Madhya Pradesh shows a comparatively stable and declining trend in funds utilised per beneficiary over time. After an initial phase characterised by higher per-beneficiary costs—partly due to limited early completions—the utilisation ratios gradually decline as the number of houses completed increases.From 2017–18 onward, MP's per-beneficiary expenditure steadily falls, indicating improved cost efficiency as housing construction expands across a larger beneficiary base. This trend reflects the state's transition from pilot-phase implementation to scaled housing delivery, supported by administrative learning and standardisation of construction processes.Unlike Kerala, MP's per-beneficiary utilisation ratios are less affected by denominator distortions, as the state maintains relatively consistent housing completion levels across years.
Interpretation: Housing Deficits, Scale, and Cost Efficiency.The contrasting PMAY-G outcomes highlight the role of baseline housing deficits and implementation scale in shaping expenditure efficiency. Kerala's volatile utilisation ratios are not indicative of inefficiency but rather a consequence of limited rural housing demand, disaster-related implementation spikes, and strict beneficiary targeting.Madhya Pradesh's higher and more consistent housing output reflects the magnitude of rural housing deprivation in the state. Its declining per-beneficiary costs over time indicate that large-scale implementation improves efficiency, even in geographically dispersed and socio-economically vulnerable settings.Thus, higher per-beneficiary expenditure in MP should be interpreted as a structural necessity, while Kerala's cost volatility reflects saturation effects and episodic implementation.
The analysis of PMAY-G demonstrates that housing security outcomes are shaped less by annual budget allocations and more by underlying housing shortages, demographic scale, and implementation context. These findings reinforce the argument that rural housing policy must be context-sensitive, with evaluation metrics accounting for saturation effects, disaster-related interventions, and scale economies rather than relying solely on per-beneficiary expenditure indicators.
3.7.5 Social Capital and Livelihood Institutions: DAY–NRLM and SHG Expansion.Social capital and livelihood institutions constitute an important dimension of standard of living under SDG 1 (No Poverty). Beyond infrastructure and income support, sustainable poverty reduction requires institutional mechanisms that promote financial inclusion, collective action, and livelihood diversification. The Deendayal Antyodaya Yojana–National Rural Livelihoods Mission (DAY–NRLM) aims to strengthen rural livelihoods through the promotion and support of Self-Help Groups (SHGs). This subsection analyses allocation patterns, SHG expansion, and funds utilised per beneficiary in Kerala and Madhya Pradesh.
Graph 5.7



Source: *Author's graphical representation based on compiled data from DAY-NRLM*
Trends in SHG Promotion and Allocation
Table 5.2.5 presents year-wise data on DAY-NRLM budget allocation, number of SHGs promoted, and funds utilised per SHG beneficiary for Kerala and Madhya Pradesh. The trends are illustrated in Figure 5.2.5(a) for Kerala and Figure 5.2.5(b) for Madhya Pradesh.
Table 5.2.5

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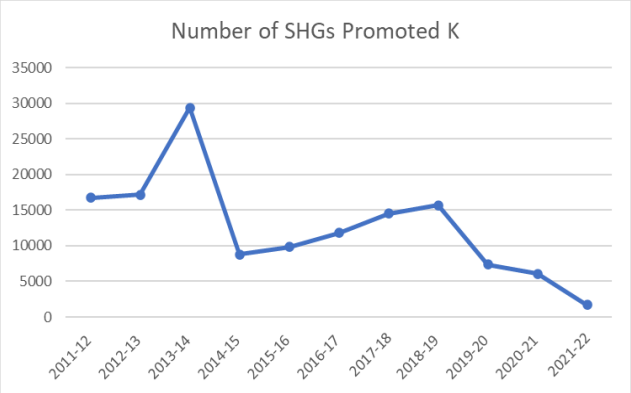
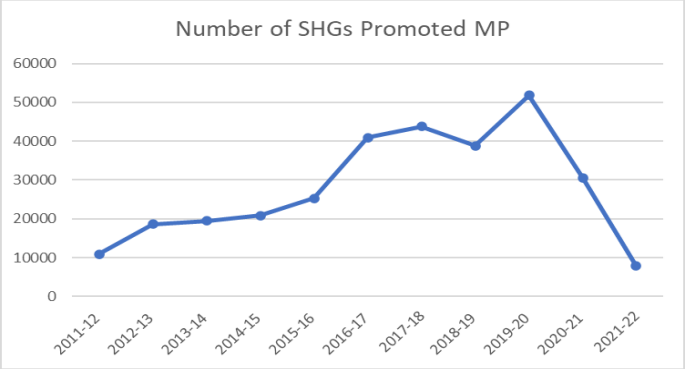
	DAY-NRLM					
Years	Kerala	MP	Number of SHGs Promoted K	Funds utilized per benificeries K	Number of SHGs Promoted MP	Funds utilized per benificeries MP
2011-12	36.93	112.54	16716	0.002209261	10873	0.010350409
2012-13	35.86	99	17176	0.002087797	18582	0.005327737
2013-14	45.37	93.05	29411	0.00154262	19419	0.004791699
2014-15	677.17	4719	8778	0.077143996	20830	0.226548248
2015-16	1005.64	2709.81	9819	0.102417761	25290	0.107149466
2016-17	511.88	3097.82	11793	0.04340541	40896	0.075748728
2017-18	5004.07	10596.52	14525	0.344514286	43805	0.241902066
2018-19	6925.01	8381.6	15698	0.441139636	38824	0.21588708
2019-20	3463.08	23237.89	7352	0.471039173	51800	0.448607915
2020-21	7811.16	19570.83	6061	1.288757631	30520	0.641246068
2021-22	7309.1	24417.18	1699	4.302001177	7839	3.114833525

Source: Author's calculation using scheme-level expenditure and output data from Government of India (various years).

Madhya Pradesh consistently records higher allocations and a larger number of SHGs promoted throughout the study period. This reflects both its larger rural population and the need to expand social capital networks in areas with limited pre-existing institutional structures. The upward trend in allocations indicates a sustained effort to build grassroots livelihood institutions across districts, particularly in economically vulnerable regions.

Graph 5.2.5 (a)





Source: Author's calculation using scheme-level expenditure and output data from Government of India (various years).

graph 5.2.5 (b)

Source: *Author's compilation and analysis based on official scheme dashboards and annual reports of Government of India.*

In contrast, Kerala shows moderate and relatively stable SHG numbers, with less dramatic expansion over time. This pattern is explained by the presence of Kudumbashree, a long-standing and deeply institutionalised SHG network that predates DAY-NRLM. Rather than rapid expansion, Kerala's SHG activity under DAY-NRLM reflects consolidation and strengthening of an already mature system.

Funds Utilised per Beneficiary. The funds utilised per SHG beneficiary reveal contrasting patterns between the two states. In Madhya Pradesh, per-beneficiary expenditure remains comparatively higher during expansion phases, reflecting the costs associated with institution building, training, financial linkage, and capacity development. As SHG numbers increase, some evidence of scale efficiency is observable, though expenditure levels remain significant due to the depth of institutional development required. In Kerala, per-beneficiary utilisation remains relatively stable and moderate across the period. This suggests that incremental expenditure is directed toward strengthening existing SHGs rather than creating entirely new institutional structures. Years with minor fluctuations are largely associated with programme restructuring or expansion of credit linkage activities rather than large-scale new group formation.

Interpretation: Kudumbashree versus Emerging SHG Systems. The comparative trends illustrate two distinct institutional contexts. In Kerala, Kudumbashree functions as a well-established social capital framework integrated with local governance and women's empowerment initiatives. Consequently, additional DAY-NRLM expenditure operates within an already strong institutional base, resulting in steady utilisation patterns.In Madhya Pradesh, SHG systems are still in the process of expansion and consolidation. Higher allocations and utilisation levels reflect the need to build social capital in regions characterised by higher poverty and weaker pre-existing community networks. The larger fiscal effort in MP therefore represents the cost of institutional catch-up rather than inefficiency.

The analysis of DAY-NRLM demonstrates that social capital development is strongly shaped by institutional maturity. Kerala's established SHG ecosystem allows for consolidation with moderate incremental expenditure, while Madhya Pradesh requires sustained and higher investment to build comparable institutional capacity. These findings reinforce the broader argument of this chapter: improvements in standard of living depend not only on expenditure levels but also on the strength and depth of local institutions that mediate livelihood outcomes.

3.7. X Aggregate Outcome Trends: Multidimensional Poverty Index (MPI) While the preceding sections examined scheme-level outputs and beneficiary-level utilisation patterns, an assessment of standard-of-living outcomes requires an aggregate indicator that captures multiple and overlapping dimensions of deprivation. To address this, the Multidimensional Poverty Index (MPI) is employed as a summary outcome measure reflecting overall changes in living standards in Kerala and Madhya Pradesh.The MPI, developed and published in India by NITI Aayog, measures poverty across indicators related to health, education, and living standards, including housing quality, sanitation, drinking water access, and access to basic services. These dimensions closely correspond to the indicators analysed in this chapter under SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation). As such, MPI provides an appropriate framework for situating scheme-specific findings within a broader outcome-based assessment.

It is important to note that MPI does not attribute changes in poverty outcomes to individual schemes or specific expenditure heads. Rather, it captures the combined and cumulative effects of economic growth, social policy interventions, and public expenditure over time. Accordingly, MPI is used in this study to contextualise and validate the scheme-level analysis, rather than to establish direct causal relationships.

Trends in Multidimensional Poverty: Kerala and Madhya Pradesh

Table 3.7X presents the MPI headcount ratio—the percentage of the population identified as multidimensionally poor—for Kerala and Madhya Pradesh based on NFHS-4 (2015–16) and NFHS-5 (2019–20) estimates.

Table 3.7X

Year	Headcount Ratio -Percentage of population who are multidimensionally poor	
	Kerala	MP
NFHS-4 Estimates (2015-16	0.71%	36.65%
NFHS-5 Provisional Estimates (2019-20)	0.55%	20.63%

Source: *NITI Aayog (2021); based on NFHS-4 (2015–16) and NFHS-5 (2019–20) estimates; author's compilation.*

Kerala exhibits an exceptionally low level of multidimensional poverty in both reference periods. The MPI headcount ratio declined marginally from 0.71 per cent in 2015–16 to 0.55 per cent in 2019–20. This modest reduction reflects a saturation-stage development context, where most basic deprivations related to

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housing, sanitation, drinking water, health, and education have already been addressed. Consequently, further improvements in MPI occur incrementally, consistent with Kerala's long-standing achievements in human development and strong institutional foundations.

In contrast, Madhya Pradesh recorded a substantially higher MPI headcount ratio of 36.65 per cent in 2015–16, indicating widespread multidimensional deprivation. By 2019–20, the MPI declined sharply to 20.63 per cent, representing a significant reduction of over 16 percentage points within a relatively short period. This pronounced decline reflects improvements in access to sanitation, housing, drinking water, and livelihood support, coinciding with expanded coverage and higher expenditure under major social sector programmes.

Interpreting MPI Trends in Relation to Public Expenditure: The contrasting MPI trajectories reinforce the central findings of the scheme-level analysis presented earlier in this chapter. Kerala's low MPI levels and slow rate of decline demonstrate that welfare interventions operate in a context of already high living standards, where additional public expenditure yields lower marginal gains. In such settings, public spending plays a consolidating and sustaining role rather than driving large measurable reductions in poverty indicators. Madhya Pradesh's experience, by contrast, illustrates a catch-up trajectory. Despite higher per-beneficiary expenditure and greater fiscal effort, MPI levels remain considerably higher than in Kerala, reflecting the depth of historical and structural deprivation. However, the rapid decline in MPI confirms that increased public expenditure and expanded scheme implementation have contributed to measurable improvements in living conditions, even though convergence with high-performing states has not yet been achieved.The persistence of a substantial inter-state MPI gap highlights the enduring influence of baseline socio-economic conditions, institutional capacity, and geographic and demographic constraints. While MP is improving at a faster pace, the scale of deprivation implies that sustained and long-term investment is required to achieve parity with states such as Kerala.

MPI as an Outcome Anchor for the Present Study: The inclusion of MPI strengthens the analytical framework of this chapter by providing an aggregate outcome anchor to the output- and utilisation-based indicators analysed across SDG 1 and SDG 6 schemes. When interpreted alongside scheme-level evidence, MPI trends demonstrate that public expenditure contributes meaningfully to improvements in standard of living, but that the magnitude, efficiency, and pace of improvement are mediated by context-specific factors.Thus, MPI serves as a validating lens for the core argument of this chapter: ***higher public expenditure contributes to improved socio-economic indicators, but differences in development outcomes across states reflect variations in baseline conditions, institutional capacity, and the depth of deprivation rather than differences in policy intent or effort alone***.

3.8 Thematic Interpretation of Results: The scheme-wise analysis presented in the preceding sections reveals consistent patterns that extend beyond individual programmes. When interpreted thematically, the results demonstrate that differences in standard-of-living outcomes between Kerala and Madhya Pradesh are shaped not merely by variations in public expenditure, but by baseline socio-economic conditions, institutional capacity, scale of intervention, and the nature of deprivation. This section synthesises the empirical findings across SDG 1 and SDG 6 indicators into four interrelated themes.

3.8.1 Efficiency versus Scale in Public Expenditure: A central theme emerging from the analysis is the trade-off between efficiency and scale in the translation of public expenditure into standard-of-living outcomes.Kerala consistently demonstrates lower per-beneficiary expenditure across sanitation, housing, drinking water, and livelihood-related schemes during years of large-scale implementation. This reflects the presence of strong administrative systems, dense settlement patterns, and relatively high baseline infrastructure, which allow the state to achieve outcomes at lower marginal cost. Economies of scale are evident during peak implementation years under SBM-G, PMAY-G, and NRDWP/JJM, when increased outputs are associated with declining per-unit expenditure.

In contrast, Madhya Pradesh exhibits higher per-beneficiary expenditure across most schemes. However, this should not be interpreted as inefficiency. Rather, it reflects the structural cost of scale expansion in a state characterised by dispersed rural settlements, large tribal populations, weaker baseline infrastructure, and significant geographic heterogeneity. Higher expenditure is required to reach remote and marginalised communities, particularly under sanitation, housing, and drinking water programmes.

Thus, efficiency in Kerala is largely the outcome of institutional maturity and saturation, while higher costs in Madhya Pradesh represent the necessary fiscal burden of catching up from a lower development baseline.

3.8.2 Role of Baseline Socio-Economic Conditions: The findings strongly indicate that initial conditions matter in determining how effectively public expenditure improves standard of living.Kerala's historically high levels of literacy, public health coverage, land reforms, and social welfare provisioning have created a development context in which centrally sponsored schemes function primarily as complementary or corrective interventions. As a result, scheme outcomes in Kerala are often episodic, targeted, and responsive to specific needs such as disaster rehabilitation or marginalised household coverage.

adhya Pradesh, by contrast, begins from a position of chronic deprivation across multiple dimensions—housing quality, sanitation access, drinking water availability, and livelihood security. Consequently, schemes such as MGNREGA, PMAY-G, SBM-G, and JJM are not merely supplementary but structural to survival and basic welfare. This explains the consistently higher utilisation levels and sustained dependence on public programmes despite gradual improvements in income indicators such as per capita NNI.The divergence between rising income levels and continued reliance on welfare schemes in MP underscores the limitations of aggregate economic indicators in capturing household-level vulnerability and underemployment, particularly in agrarian and informal economies.

3.8.3 Institutional Capacity and Governance Structures: Institutional capacity emerges as a decisive factor mediating the relationship between expenditure and outcomes.Kerala's performance across SDG 1 and SDG 6 indicators reflects the presence of strong decentralised governance, effective Panchayati Raj institutions, and well-established community networks such as Kudumbashree. These institutions facilitate accurate beneficiary identification, timely fund utilisation, community participation, and post-implementation monitoring, thereby enhancing the efficiency and sustainability of outcomes.

In Madhya Pradesh, institutional capacity varies significantly across districts, particularly between tribal and non-tribal regions. Administrative challenges related to planning, technical expertise, and last-mile delivery increase implementation costs and delay outcomes. Nevertheless, the strong absorption of funds under schemes such as MGNREGA and DAY–NRLM indicates that where administrative mechanisms are functional, public expenditure translates effectively into livelihood support and social capital formation.The findings suggest that institutional strengthening is as important as financial allocation, particularly in states with weaker baseline governance capacity.

3.8.4 Structural versus Transitory Poverty Responses: A crucial insight from the analysis is the distinction between structural and transitory poverty responses.In Kerala, schemes such as MGNREGA and NRLM operate largely as shock absorbers, responding to short-term labour market disruptions, economic shocks, or environmental crises. The strong correlation between MGNREGA allocation and utilisation during periods of stress highlights its role as a responsive safety net rather than a permanent livelihood source.In Madhya Pradesh, however, these schemes function as long-term livelihood stabilisers. Persistent high utilisation of MGNREGA despite low reported unemployment and rising per capita income indicates that large segments of the rural population remain structurally dependent on public employment for income security. Similarly, sustained expansion of SHGs under DAY–NRLM reflects efforts to build durable livelihood systems in the absence of sufficient market-based employment opportunities.This contrast underscores that uniform policy design cannot produce uniform outcomes. Welfare schemes must be interpreted and evaluated in relation to the type of poverty they address—whether temporary or deeply structural.

3.8.5 Implications for SDG 1 and SDG 6 Implementation: Taken together, the thematic findings reveal that progress toward SDG 1 and SDG 6 is contingent not only on financial commitment but on context-sensitive implementation strategies. Kerala's experience demonstrates how long-term investments in human development and governance reduce the marginal cost of achieving SDG targets. Madhya Pradesh's experience illustrates the necessity of sustained, high-intensity public investment to overcome entrenched deprivation.

The results caution against evaluating programme success solely through expenditure efficiency metrics. Instead, assessments must account for baseline disparities, institutional readiness, and the depth of deprivation, particularly when comparing states at different stages of development.

3.9 Comparative Summary of Standard-of-Living Outcomes: Kerala and Madhya Pradesh

Dimension	Kerala	Madhya Pradesh
Baseline socio-economic conditions	High human development, strong social sector foundations, low initial deprivation	High initial deprivation, large rural and tribal population, weaker social indicators
Role of public expenditure	Largely supplementary and gap-filling	Structural and essential for basic welfare
Sanitation (SBM–IHHL)	High pre-existing coverage; episodic implementation; strong economies of scale	Large-scale expansion; sustained construction; higher per-unit cost due to outreach
Housing (PMAY-G)	Limited rural housing shortage; volatile outputs due to saturation and disaster-related needs	Chronic housing deficits; continuous expansion; improving efficiency over time
Drinking water (NRDWP/JJM)	Rapid coverage expansion with low per-household cost; mature infrastructure	High infrastructure intensity; higher per-household cost; large-scale catch-up
Employment security (MGNREGA)	Functions mainly as a counter-cyclical safety net	Functions as a long-term livelihood stabiliser

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Income context (Per capita NNI)	High and rising income levels; uneven distribution	Low but rising income levels; persistent vulnerability
Livelihood institutions (DAY–NRLM/SHGs)	Mature SHG ecosystem (Kudumbashree); lower incremental funding needs	Expanding SHG base; higher per-beneficiary investment
Per-beneficiary expenditure pattern	Lower on average; volatile in low-output years	Lower on average; volatile in low-output years
Institutional capacity	Strong decentralised governance and community participation	Uneven administrative capacity across districts
Overall development trajectory	Saturation-stage development with marginal improvements	Catch-up development requiring sustained public investment

Interpretive Summary

The comparative summary highlights two distinct development trajectories shaped by differences in baseline conditions, institutional capacity, and the nature of deprivation. Kerala's outcomes reflect a saturation-stage development model, where centrally sponsored schemes function primarily as complementary interventions within an already strong social and institutional framework. As a result, outcomes are achieved with lower marginal expenditure, though utilisation indicators may appear volatile in years with limited beneficiary coverage.Madhya Pradesh, in contrast, represents a catch-up development model, characterised by deep-rooted structural deficits in sanitation, housing, water supply, and livelihoods. Higher per-beneficiary expenditure and sustained utilisation across schemes reflect the fiscal and administrative effort required to extend basic services to a dispersed and vulnerable population. These differences underscore that variations in expenditure efficiency across states are best understood as outcomes of context-specific development challenges, rather than as indicators of implementation failure.

3.10 Conclusion

This chapter examined the relationship between public expenditure and standard-of-living outcomes under SDG 1 (No Poverty) and SDG 6 (Clean Water and Sanitation) through a comparative analysis of Kerala and Madhya Pradesh from 2011–12 to 2023–24. Using scheme-wise budget allocations, output indicators, and beneficiary-level utilisation patterns, the chapter assessed how financial inputs are translated into improvements in living conditions across two structurally different states.The analysis demonstrates that higher public expenditure contributes to improvements in socio-economic indicators, but that the magnitude, pace, and visibility of these improvements vary significantly across contexts. Kerala and Madhya Pradesh represent two distinct development trajectories shaped by differences in baseline socio-economic conditions, institutional capacity, and historical deprivation. Kerala's outcomes reflect a saturation-stage development model, where decades of investment in education, public health, decentralised governance, and social welfare have substantially reduced basic deprivations. As a result, centrally sponsored schemes in Kerala operate largely as supplementary or corrective interventions, achieving outcomes with relatively low incremental expenditure and limited scope for dramatic year-on-year improvements.In contrast, Madhya Pradesh exhibits a catch-up development trajectory characterised by deep structural deficits in sanitation, housing, drinking water access, and livelihood security. Higher per-beneficiary expenditure and sustained utilisation across schemes such as MGNREGA, PMAY-G, SBM-G, DAY–NRLM, and NRDWP/JJM reflect the fiscal and administrative effort required to extend basic services to a large, dispersed, and socio-economically vulnerable population. While outcomes improve more slowly in absolute terms, the scale of intervention required in MP is substantially greater due to its lower starting point.The inclusion of the Multidimensional Poverty Index (MPI) as an aggregate outcome indicator strengthens these findings by situating scheme-level results within a broader measure of standard of living. MPI trends based on NFHS estimates show that Kerala had already achieved an exceptionally low level of multidimensional poverty by 2015–16, with only marginal reductions thereafter. This pattern confirms the saturation-stage nature of Kerala's development, where further improvements occur incrementally. Madhya Pradesh, by contrast, recorded a sharp decline in MPI between 2015–16 and 2019–20, indicating substantial reductions in multidimensional deprivation. Although MP's MPI remains significantly higher than Kerala's, the faster rate of decline confirms that increased public expenditure and expanded scheme coverage have translated into measurable improvements in living standards.mportantly, the persistence of a large inter-state MPI gap underscores that higher expenditure does not imply inefficiency, just as lower expenditure does not automatically imply superior outcomes. Rather, development outcomes are mediated by baseline conditions, institutional capacity, geographic and demographic constraints, and the depth of historical deprivation. The MPI evidence validates the central argument of this chapter: public expenditure is a necessary driver of socio-economic improvement, but its effectiveness is inherently context-dependent.Overall, the chapter establishes that progress toward SDG 1 and SDG 6 requires more than uniform increases in spending. It calls for differentiated, context-sensitive policy design, sustained investment in institutional capacity, and long-term commitment in lagging regions to enable convergence in living standards. The comparative insights generated here provide a strong foundation for the subsequent chapter, which examines policy implications and strategies for enhancing the effectiveness and equity of public expenditure in improving socio-economic outcomes across Indian states.

3.11 Way Forward

The findings of this study show that public expenditure contributes to improvements in standard-of-living outcomes under SDG 1 and SDG 6; however, its effectiveness depends on baseline socio-economic conditions, institutional capacity, and the depth of deprivation. In light of these results, several policy directions emerge.First, fiscal design should move beyond uniform allocation patterns toward context-sensitive targeting. States with higher structural deficits require sustained and higher funding over longer horizons, while performance evaluation should account for initial conditions rather than relying solely on per-beneficiary expenditure comparisons.Second, strengthening institutional capacity must be treated as a core development priority. Efficient conversion of expenditure into outcomes depends on local governance systems, administrative capacity, and community-based institutions. Investment in institutional strengthening can improve expenditure efficiency, particularly in lagging regions.Third, monitoring frameworks should emphasise outcome-based indicators, such as multidimensional poverty reduction, rather than focusing exclusively on financial inputs and physical outputs. Integrating aggregate measures like MPI into regular assessment can provide a more comprehensive evaluation of progress under SDG 1 and SDG 6.Finally, reducing inter-state disparities requires sustained and differentiated policy approaches. While states such as Madhya Pradesh show progress, convergence with higher-performing states like Kerala will require long-term commitment, targeted interventions in high-deprivation districts, and continued expansion of social and livelihood institutions.
verall, the way forward lies not merely in increasing expenditure, but in aligning fiscal effort with institutional capacity and contextual needs to achieve inclusive and sustainable improvements in living standards.

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