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The Status of District Mineral Foundation (DMF) Funds in India, Odisha and Kendujhar: An Overview and a Comparative Analysis

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How to cite this article: Mishra S, *et al.* The Status of District Mineral Foundation (DMF) Funds in India, Odisha and Kendujhar: An Overview and a Comparative Analysis. J Int Commer Law Technol. 2025;6(1):863–871

Received: 30-09-2025

Revised: 11-10-2025

Accepted: 28-10-2025

Published: 13-11-2025

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Abstract: Mining activities are mostly carried out for a region's economic development, but they come with a cost, as the resource curse hypothesis often points out. To promote the development of mining-affected areas, which often incur high costs due to the resource curse hypothesis, the Government of India established a Fund known as the District Mineral Foundation Fund (DMF Fund) through an amendment to the Mines and Minerals Development and Regulation Act, 2015. We have conducted a comparative analysis to understand how the DMF Fund has been utilised over the last 9 years since its establishment, examine the sectoral spending pattern, and identify the Top DMF Fund-receiving districts of Odisha. To address that purpose, we have used the data available from the Ministry of Mines(National DMF Portal) and made a sectoral comparison for India and Odisha, along with particular receiving DMF Fund districts in Odisha and found that Drinking water supply, Health and Education form the Top Sectoral spending in high-priority areas, whereas Physical Infrastructure tops in Other Priority areas. While the Utilisation rates of the DMF Fund have been used to assess how fairly the spending pattern aligns with the allocated amount. Environment Preservation stands out as the premier sector, followed closely by Health, indicating minimal hurdles and strong efforts toward completing these sectors, while Education and Drinking Water Supply show moderate utilisation rates.

Keywords: DMF Fund, Sectoral analysis, Utilisation rates

INTRODUCTION

Resource-rich regions often face the “resource curse,” where mineral wealth coexists with local underdevelopment. In India, the District Mineral Foundation (DMF) was established through the amendment of the Mines and Minerals (Development and Regulation) Act, 1957 (Section 9B and 20A), to address this paradox. Operationalised through the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) in 2015(Revised PMKKKY Guidelines Ministry of Mines, n.d.)The DMF seeks to ensure that

communities affected by mining benefit from mineral revenues through targeted investments in priority sectors such as health, education, drinking water, sanitation, and livelihood development.

Odisha, one of India's mineral-rich states, has emerged as a key site for examining DMF implementation. Kendujhar district, in particular, stands out as one of the largest recipients of the DMF fund. Yet, questions remain regarding how effectively these funds are being utilised and whether sectoral allocations align with developmental priorities.

This paper analyses the status and utilisation of DMF funds at three levels—India, Odisha, and Kendujhar district—between 2015 and 2025. It identifies patterns in fund allocation, sectoral priorities, and utilisation efficiency, providing evidence-based insights into governance and policy effectiveness.

Conceptual Framework of DMF

DMF is financed through a fixed share of mineral royalties: 30% for high-priority areas (drinking

water, health, education, sanitation, environment, women and child welfare, etc.) and 10% for other priority areas (infrastructure, irrigation, watershed development). PMKKKY guidelines mandate an allocation of 70% to high-priority sectors and 30% to other sectors. State governments are responsible for designing district-specific rules and ensuring the effective use of funds

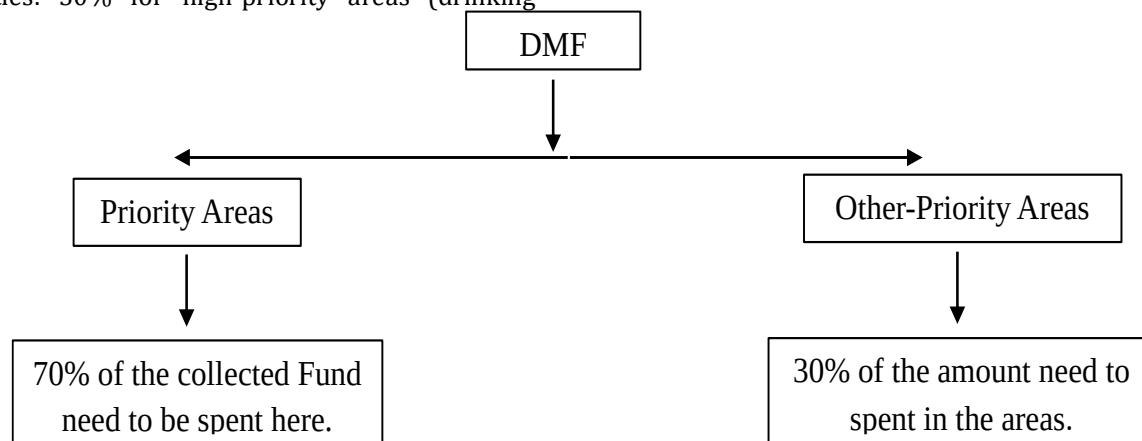


Figure 1: Legislative Framework for DMF Allocation in Areas

In India, the District Mineral Foundation (DMF), established through the Mines and Minerals (Development and Regulation) Amendment Act, 2015, is designed as a resource revenue-sharing and local development mechanism. It allocates a portion of mining royalties to district-level funds aimed at improving health, education, infrastructure, environment, and livelihoods in mining-affected communities (Harvey & Brereton, 2005; Parlee, 2015; Wall & Pelon, 2011). Similar mechanisms exist globally, such as Community Development Funds and Royalties for Regions schemes (Argent et al., 2023). However, DMFs are vulnerable to institutional weaknesses, including mismanagement, lack of transparency, and elite capture, which can limit developmental impact (Lujala & Narh, 2020; Standing, 2014). Therefore, understanding DMF's effectiveness requires conceptualising how resource rents, governance quality, and institutional capacity interact to shape development outcomes in mining regions

Data and Methodology

For the Research methodology part, we have summarised our research requirements into the following parts-

Research Design

The present study adopts a descriptive-comparative research design to analyse the patterns of allocation and utilisation of the District Mineral Foundation (DMF) funds at three analytical scales: national (India), state (Odisha), and district (Kendujhar). The focus is on understanding (i) how DMF funds have been allocated across sectors, (ii) how effectively these allocations have been utilised, and (iii) whether variations exist between national, state, and district-level patterns in terms of spending priorities and implementation efficiency. A mixed-methods approach combining quantitative secondary data analysis, trend analysis, and comparative sectoral evaluation has been employed to ensure robustness and analytical depth.

Data Sources

The study relies exclusively on secondary data, drawn from authoritative and publicly available government databases. Data was mainly collected from the National District Mineral Foundation (DMF) Portal, maintained by the Ministry of Mines, Government of India, which provides granular, district-wise and sector-wise data on DMF collections, allocations, sanctions, and expenditures. Additional sources to complement the data were taken from: The Ministry of Mines Annual Reports, Notifications and guidelines under the Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY), The Mines and Minerals (Development and Regulation) Act, 1957, as amended in 2015, and the Odisha DMF Portal for district-level fund flow information. The data cover a 10-year period (2015–16 to 2024–25), which corresponds to the time since the operationalisation of DMF Funds in India following the 2015 legislative amendment.

Data Classification and Variables

All financial data on DMF allocation and utilisation

were classified according to thematic priority areas, in line with the PMKKKY guidelines (Revised PMKKKY Guidelines Ministry of Mines, n.d.): *High-Priority Sectors* (70% mandatory allocation): Drinking Water Supply, Health, Education, Welfare of Women and Children, Welfare of Aged and Disabled, Sanitation, Skill Development, Environment Preservation and Pollution Control, Agriculture, Animal Husbandry, and Housing. *Other Priority Sectors* (30% permissible allocation): Physical Infrastructure, Irrigation, Energy and Watershed Development, and Environmental Quality Enhancement in mining districts.

For each sector, three key variables were taken into consideration for the study are:

1. Number of Projects (approved under DMF),
2. Amount Sanctioned (₹ crore), and
3. Amount Spent (₹ crore), which reflects actual fund utilisation.

A derived variable, the Utilisation Rate (Chadha & Kapoor, 2022), was calculated as:

$$\text{Utilisation Rate (\%)} = \left(\frac{\text{Amount Spent}}{\text{Amount Sanctioned}} \right) \times 100$$

This indicator provides a clear measure of implementation efficiency and allows for direct comparison across sectors and levels of governance.

Analytical Framework

The analytical framework involves three levels: the National level, the State level and the district level. At the national level, a sector-wise assessment of DMF fund allocation, sanctioning, and utilisation was conducted for the entire country. This involved identifying top-performing and underperforming

sectors in terms of utilisation rates. At the state level, the study helps to understand the year-wise DMF revenue collections for Odisha (as a major DMF Fund collection state), disaggregated by mineral type (Major Coal & Lignite, Other than Coal & Lignite, Minor Minerals). Trend analysis was conducted to examine growth trajectories in fund accumulation over time. Sectoral allocations were compared to identify Odisha's priority areas and utilisation efficiency relative to the national average. However, for analysing data for the local level (Kendujhar), one of the largest DMF fund recipient districts in Odisha was selected for an in-depth case study. Sector-wise allocation, sanctioning, and utilisation data were studied to assess whether local spending patterns align with national and state-level priorities. Emphasis was placed on identifying sectoral imbalances, high and low utilisation sectors, and project distribution between high-priority and other-priority areas.

Data visualisation and limitations

For data visualisation, we utilised MS Excel to prepare various tables and charts, ensuring a clear and concise understanding. While talking about the limitations, we have employed only secondary data from various sources and considered our study to be the highest DMF Fund collected in the State and District. A primary survey can be conducted to gain insight into the ground reality of the DMF Fund work, and this study can be more reliable with the evidence. The ordinary least squares (OLS) method can be used to determine the factors affecting the DMF Fund utilisation, and a model can be drawn from that

Findings and Results

National Overview of DMF Implementation (India)

Since 2015, DMF collections have steadily increased, with allocations focusing on physical infrastructure, education, and health. However, utilisation rates vary significantly by sector. After the amendment of the MMRD Act, 2015, there is a mandatory provision to dedicate certain mineral royalty towards the development of local mining regions which are directly or indirectly affected by mining. The legislation provides 70% to the high priority areas concerning health, education, drinking water, etc., and the remaining 30% will be dedicated towards other priority areas such as physical infrastructure. A dedicated district-wise mineral trust fund has been created under the district magistrate to regulate and fund these priority areas' activities. Pradhan Mantri Khanij Kshetra Kalyan Yojana (PMKKKY) has set the path light and helped to formulate policy on how these funds should be utilised, and also acts as a sole body.

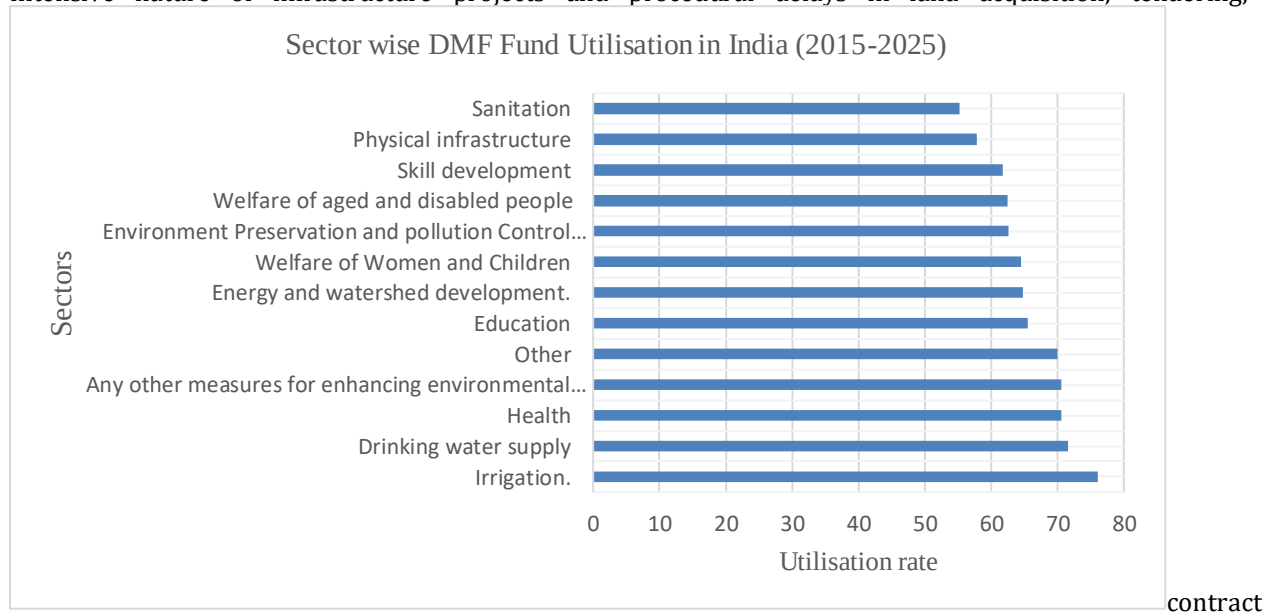
Table 1 India DMF Fund 2015-2025 Details

India DMF Fund upto June 2025					
	Sector wise work	Number of Projects	Amount Sanctioned (In Cr.)	Amount Spent (In Cr.)	Utilisation rate
1	Drinking water supply	51712	13461.33	9631.21	71.54724
2	Environment Preservation and pollution Control measures	8989	1651.11	1032.95	62.56094
3	Health	23281	9688.16	6840.38	70.60556
4	Education	108616	18724.21	12261.2	65.48314

5	Welfare of Women and Children	23229	3132.81	2019.08	64.44949
6	Welfare of aged and disabled people	2487	236.23	147.64	62.49841
7	Skill development	9630	2498.13	1542.02	61.72697
8	Sanitation	21258	2814.87	1553.64	55.19402
9	Other	18990	5965.92	4175.94	69.99658
10	Physical infrastructure	102603	28491.2	16483	57.85295
11	Irrigation.	6176	2454.98	1866.15	76.01488
12	Energy and watershed development.	12764	2087.18	1350.86	64.72178
13	Any other measures for enhancing environmental quality in mining district.	6068	2716.38	1917.03	70.57297
14	Other	4790	1044.66	710.43	68.00586

Source-(*National DMF Portal*, n.d.)

Irrigation (77%), Drinking Water Supply (71%), and Health (70%) emerge as the best-performing sectors in terms of utilisation. These categories reflect priority investment in essential services that directly impact human well-being and agricultural productivity. The relatively higher efficiency in these sectors can be linked to strong demand from local communities and the presence of established administrative mechanisms for fund absorption. Education (65%), Welfare of Women and Children (64.45%), Energy and Watershed Development (64.72%), and Environment Preservation (62.56%) show moderately high utilisation. The Skill Development (61%) and Welfare of Aged and Disabled (62%) sectors also show a moderate Utilisation rate, suggesting that social security and capacity-building programmes face challenges in implementation, possibly due to institutional gaps or lack of technical expertise. While these are recognised as high-priority areas, delays in project approvals and inter-departmental coordination may explain why utilisation has not matched sanctioned levels. Physical Infrastructure (58%) and Sanitation (55%) record relatively lower fund absorption rates, indicating Underperformance. This could be due to the capital-intensive nature of infrastructure projects and procedural delays in land acquisition, tendering, and



execution.

Figure 2 Sector-wise DMF Fund Utilisation

DMF Trends in Odisha

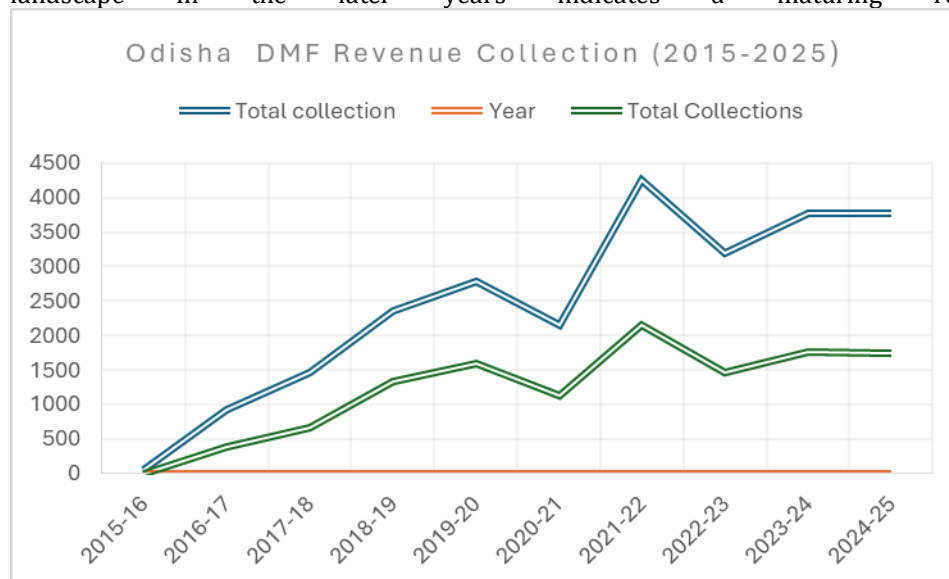
Odisha's DMF collections have grown from ₹54.6 crore in 2015–16 to nearly ₹3,800 crore by 2024–25, primarily driven by non-coal minerals. Education and drinking water dominate project counts, while infrastructure attracts large allocations but lower utilisation. Minor minerals provide steady but small revenue contributions.

Figure 3 illustrates the temporal evolution of Odisha's DMF revenue collections between 2015–16 and 2024–25. The series exhibits a clear upward trend, characterised by three distinct phases: an initial expansion (2015–16 to 2019–20), a short-term contraction (2020–21), and a post-pandemic recovery and stabilisation (2021–22 onwards). The first phase corresponds to the institutional consolidation of DMF mechanisms, marked by rapid scaling of collections from negligible levels to over ₹2,500 crore. The temporary decline in 2020–21 coincides with

the national economic slowdown and reduced mining activity during COVID-19. Subsequently, collections peaked at over ₹4,000 crore in 2021–22, reflecting both resumed

Figure 3 DMF trends in Odisha

production and improved compliance mechanisms. The stabilisation observed in the later years India's DMF fiscal landscape in the later years indicates a maturing revenue regime, wherein



DMF flows have become a structural fiscal component of Odisha's mineral economy. The sustained increase is primarily driven by non-coal mineral revenues, underscoring Odisha's dominant position in India.

Table 2 DMF Fund collection from Major and Minor Minerals (2015-2025)

Year	From Major Coal & Lignite	Collection Other than (Coal& Lignite)	Collection from Minor Minerals	Total collection
2015-16	54.6	0	0	54.6
2016-17	257.94	668.88	0.32	927.14
2017-18	305.62	1151.84	0.67	1458.13
2018-19	247.79	2106.67	0.69	2355.15
2019-20	262.96	2512.94	1	2776.9
2020-21	217.47	1937.96	1.3	2156.73
2021-22	1.3	3926.07	1.98	3929.35
2022-23	491.69	2692.32	1.55	3185.56
2023-24	405.29	3371.72	0.5	3777.51
2024-25	335.55	3443.38	0.45	3779.38

Source-(National DMF Portal, n.d.)

Table 2 presents the annual District Mineral Foundation (DMF) collections in Odisha from 2015–16 to 2024–25, disaggregated by sources of revenue—major coal and lignite, other than coal and lignite, and minor minerals. The data highlights three critical trends.

First, the dominance of “other than coal & lignite” minerals is evident throughout the period. Collections from these minerals consistently outstrip those from coal, reflecting Odisha's diversified mineral base beyond coal mining. By 2024–25, non-coal minerals contributed more than 90% of the total DMF revenue, underscoring the state's reliance on iron ore, chromite, and other metallic minerals.

Second, the volatility of coal-based contributions is striking. While coal and lignite accounted for ₹305.62 crore in 2017–18, this sharply fell to only ₹1.3 crore in 2021–22, before partially recovering in subsequent years. Such fluctuations can be attributed to market dynamics, regulatory changes, and variations in mining activity that are being impacted by COVID-19.

Third, although minor minerals provide only negligible contributions (below ₹2 crore annually), their consistent presence demonstrates the broadening of the DMF base, especially from construction materials and smaller-scale

extractions.

Overall, total DMF revenues in Odisha increased almost 70-fold between 2015–16 (₹54.6 crore) and 2021–22 (₹3929.35 crore), before stabilising at around ₹3,800 crore annually in the most recent years. This trajectory signals Odisha’s strong mineral endowment and the growing fiscal potential of DMF. However, the heavy dependence on non-coal minerals raises questions about vulnerability to commodity price fluctuations and the need for revenue diversification strategies.

Kendujhar District Analysis

Table 3 presents the annual District Mineral Foundation (DMF) collections in Kendujhar district from 2015–16 to 2024–25. The data reveals a complete dependence on “other than coal & lignite” minerals, which account for virtually the entire revenue base throughout the period. DMF collections began modestly in 2016–17 at ₹377.44 crore and grew steadily to ₹1,327.57 crore by 2018–19, reflecting increased mining activity and improved royalty inflows. Revenues peaked in 2021–22 at ₹2,142.98 crore, marking the highest collection over the decade, before declining slightly and stabilising around ₹1,740–1,760 crore in subsequent years. Contributions.

Table-3 DMF Collection in Kendujhar

Year	From Major Coal & Lignite	Collection Other than (Coal& Lignite)	Collection from Minor Minerals	Total Collections
2015-16	0	0	0	0
2016-17	0	377.08	0.36	377.44
2017-18	0	657.77	0.25	658.02
2018-19	0	1327.31	0.26	1327.57
2019-20	0	1588.62	0.42	1589.04
2020-21	0	1130.74	0.42	1131.16
2021-22	0	2142.1	0.88	2142.98
2022-23	0	1456.93	0.66	1457.59
2023-24	0	1763.78	0.43	1764.21
2024-25	0	1743.53	0.03	1743.56

Source-<https://dmf.odisha.gov.in/district/KENDUJHAR>

from coal and lignite remain nil, and minor minerals contribute insignificantly—less than ₹1 crore annually. This heavy reliance on non-coal minerals makes Kendujhar’s DMF revenue vulnerable to commodity price cycles and regulatory fluctuations. At the same time, the sustained high collections highlight the district’s strategic role as a major non-coal mineral hub in Odisha, underscoring the importance of effective governance to translate these revenues into tangible developmental outcomes.

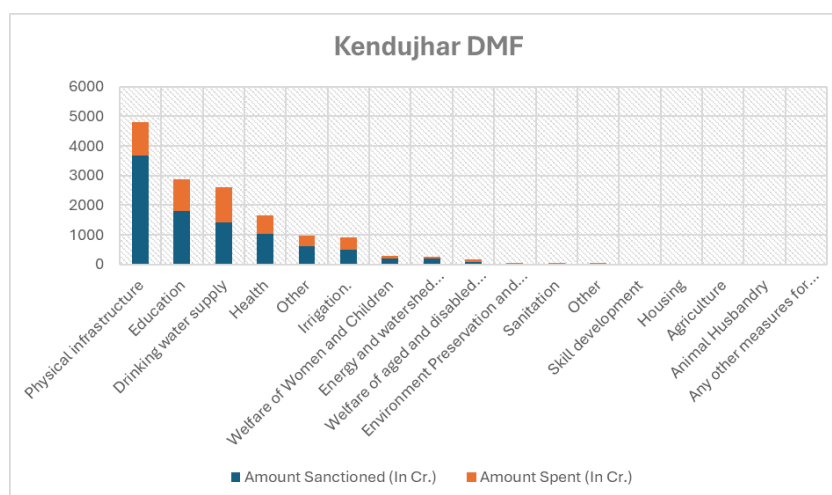


Figure-4 Sector-wise allocation and Spending (DMF 2015-2025)

High Priority Sectors: Education (1,360 projects; ₹1,816 crore sanctioned) and Drinking Water Supply (₹1,415 crore) dominate allocations. Skill Development and Sanitation are severely underfunded or unused. Other Priority Sectors: Physical Infrastructure alone accounts for over ₹3,600 crore sanctioned but shows low utilisation (~30%).

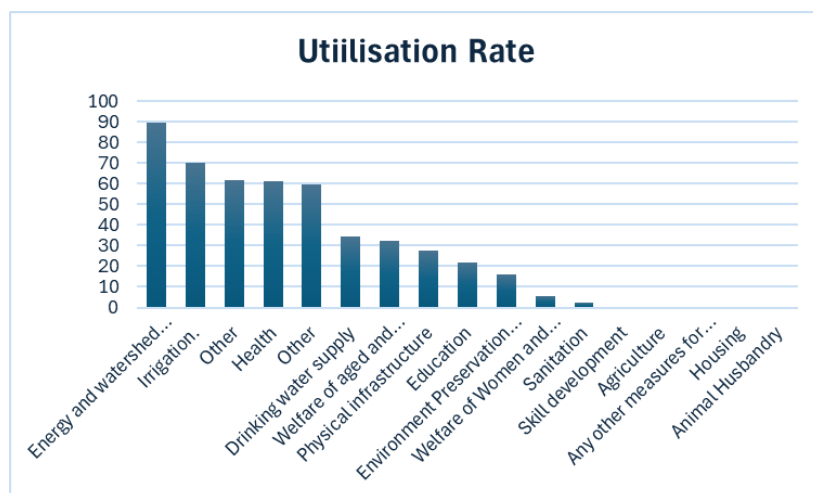


Figure 5: Utilisation Rate of Kendujhar

Utilisation Trends: The highest utilisation is observed in Energy and Watershed Development (around 90%), followed closely by Health and Irrigation (approximately 60–70%), indicating minimal hurdles and strong efforts to complete these sectors. Education and Drinking Water Supply show low utilisation rates (around 30%), suggesting scope for improvement.

Conversely, sectors such as Physical Infrastructure, Welfare of Women, Environment Preservation and pollution Control measures, and Sanitation exhibit relatively lower utilisation (around 20–10%), reflecting potential underinvestment (SA) or implementation challenges (PI). The sectors that need good attention are Skill development, Agriculture and Animal Husbandry and Housing. This uneven pattern underscores the need for targeted policy interventions to address low-performing sectors, ensuring balanced growth and optimal allocation of resources to the newly added sectors like Housing and Animal Husbandry. Such findings provide a crucial empirical basis for assessing developmental priorities and enhancing governance efficiency in future planning frameworks. This uneven distribution highlights a developmental imbalance: a focus on capital-heavy projects with weak implementation, and neglect of capacity-building and environmental sectors despite their high efficiency.

Comparative Discussion

The comparative analysis of District Mineral Foundation (DMF) data for India, Odisha, and KDJ reveals distinct patterns in project prioritisation, fund allocation, and expenditure efficiency across sectors.

Figure: 6A, 6B and 6C

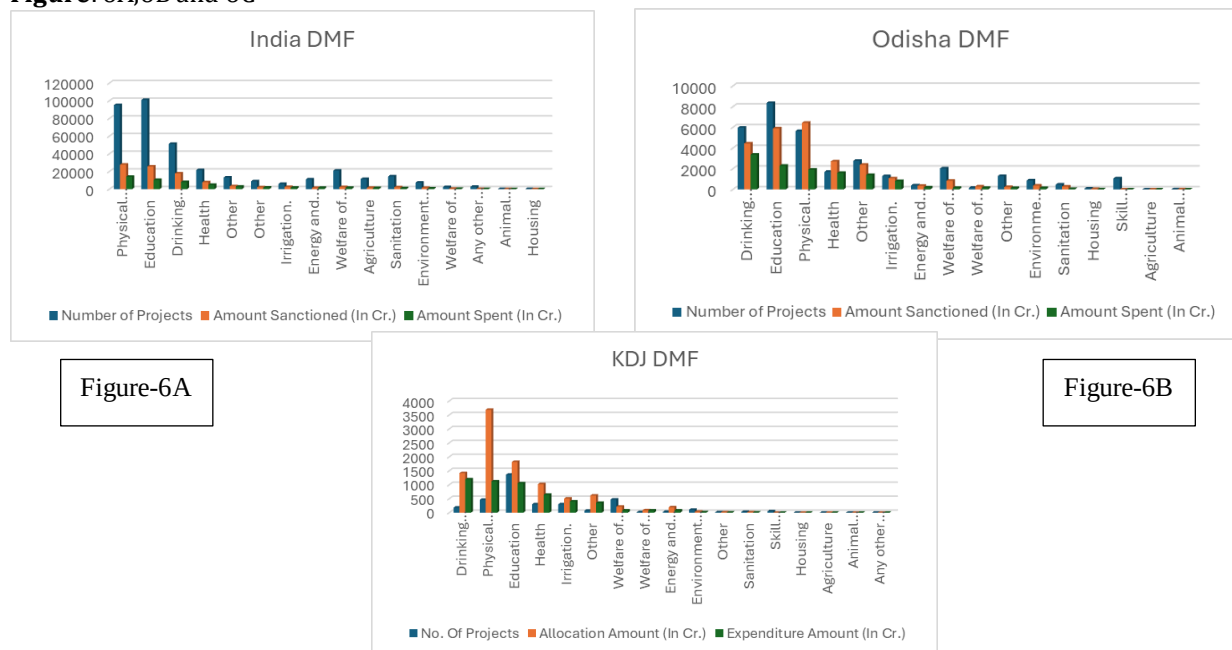


Figure-6A

Figure-6B

Figure-6C

At the national level (India DMF), the largest concentration of projects is in Physical Infrastructure and Education, both exceeding 90,000 projects, with substantial sanctioned amounts. However, a notable gap exists between

sanctioned and spent amounts across several sectors, indicating delays or inefficiencies in project execution. Drinking Water Supply and Health also emerge as major focus areas, though the relative spending-to-sanction ratio suggests room for improvement in the utilisation of funds.

In Odisha, DMF distribution is more balanced, with Education leading in project count (over 8,000 projects) and Drinking Water Supply also showing significant activity. While sanctioned amounts are generally high across the top sectors, expenditure patterns reveal that Physical Infrastructure lags in utilising funds efficiently compared to Education and Health. Sectors such as Skill Development, Housing, and Agriculture have minimal activity, indicating either lower prioritisation or challenges with project initiation.

For KDJ DMF, the scenario is highly skewed towards Drinking Water Supply and Physical Infrastructure, with the latter receiving the largest allocation (exceeding ₹3,500 crore). However, expenditure rates vary significantly, with a pronounced gap in Physical Infrastructure projects where allocated funds are disproportionately higher than actual spending. Lower-priority sectors such as Environment, Sanitation, and Agriculture show negligible activity, highlighting a narrow development focus.

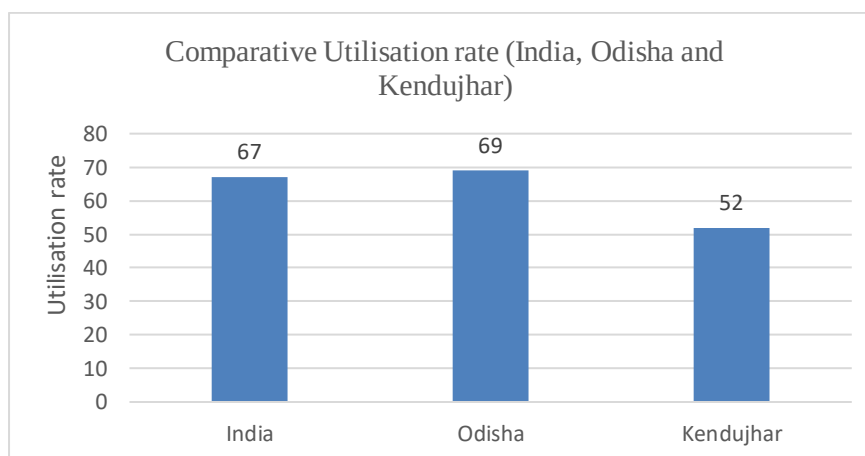


Figure 7: Comparative Utilisation rate

This points to local governance and administrative capacity as crucial factors shaping DMF outcomes. Sectors that rely on established systems (education, health) perform better, while those requiring new infrastructure or specialised skills face bottlenecks.

At the national level, the average utilisation rate is approximately 67%, reflecting moderate efficiency, with notable sectoral variations. Odisha performs slightly better, with an estimated 69% utilisation, driven by balanced allocations across the education, health, and drinking water sectors and relatively stronger administrative capacity in priority areas. In contrast, Kendujhar district, despite being one of the largest recipients of DMF funds in the country, exhibits a significantly lower utilisation rate of around 52%. This gap underscores local-level implementation bottlenecks, such as administrative delays, capacity constraints, and the concentration of funds in capital-intensive sectors like physical infrastructure, which often face tendering and execution delays.

The comparison highlights a key finding: practical DMF implementation depends not only on fund allocation but also on local institutional capacity and governance. Districts with weak project execution frameworks risk underutilising funds, undermining the developmental objectives of DMF schemes. These findings align with previous evaluations of resource governance, which emphasise the importance of decentralised capacity building to ensure equitable development outcomes in mining-affected regions

CONCLUSION

This study highlights critical patterns in the allocation and utilisation of DMF funds across India, Odisha, and Kendujhar district from 2015 to 2025. Nationally, sectors like irrigation, drinking water, and health show high utilisation, while physical infrastructure and sanitation lag due to implementation challenges. Odisha has steadily increased DMF collections, with allocations focused on education and infrastructure, but utilisation remains moderate. Kendujhar, despite being one of

the largest recipients, displays sectoral imbalances: education and drinking water dominate allocations, whereas skill development, sanitation, and environmental initiatives are underfunded despite their high efficiency potential. Physical infrastructure receives substantial funds but suffers from low spending efficiency. These patterns point to sectoral concentration, procedural bottlenecks, and capacity gaps at local levels. Strengthening institutional mechanisms, diversifying investments toward human development and the environment, and

ensuring transparent, participatory planning are essential to align DMF spending with its developmental objectives.

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