Using the District Mineral Foundations for Environment and Development in Mining Areas

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INSTITUTE FOR CONTEMPORARY STUDIES

Published by:
Rajiv Gandhi Institute for Contemporary Studies, New Delhi

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Foreword

The Rajiv Gandhi Institute for Contemporary Studies (RGICS) works on five themes:

1. Constitutional Values and Democratic Institutions,
2. Governance and Development,
3. Growth with Employment,
4. Environment, Natural Resources and Sustainability and
5. India's Place in the World.

This report is one of the outcomes of research work undertaken, cross cutting three of the above themes. Here, the major focus is on good governance by studying the processes and performance of the District Mineral Foundations established to ensure that the negative impact of mining activities is not just mitigated but part of the fund is used for promoting sustainable development, keeping both inclusive growth and environmental conservation in mind.

The report is based on data collected and interviews taken with the key stakeholders of District Mineral Foundation Trust of PMKKKY Scheme in the selected five states - Chhattisgarh, Odisha, Rajasthan, Madhya Pradesh and Jharkhand.

We are thankful to the state authorities, elected representatives, senior officials and district administration of sampled districts, civil society organizations, state and district level project management units, etc., for their valuable inputs.

This report is for a readership of policy makers, state government officials, social workers, planners and thinkers and such other concerned individuals. We hope it will be helpful in evolving the District Mineral Foundations into the direction where they can really be a force for environment and development in the mining areas.

Vijay Mahajan
Director, RGICS

Using the District Mineral Foundations for Environment and Development in Mining Areas

1. Impact of Mining on Environment and Development

Mineral deposits are assets that can be used beneficially for mankind. Minerals' forming deposits are regarded as non-renewable resources and are used by man for (a) material (b) sustenance of life and (c) energy requirements. The mining and quarrying of rocks and minerals are an age-old economic activity, though its nature and form have been changing over passage of time in many ways and means. The dependence of primitive societies upon mined products is illustrated by the nomenclature of those epochs: Stone Age, Bronze Age and Iron Age, a sequence which also shows the increasing complexity of society's relationship with mining. In a sense, the history of mining is the history of civilization (Khoshoo, 1991).

The history of mineral extraction in India dates back to the days of the Harappan civilization. The wide availability of the minerals provides a base for the growth and development of the mining sector in India. The country is endowed with huge resources of many metallic and non-metallic minerals. Mining sector is an important segment of the Indian economy. Since independence, there has been a pronounced growth in mineral production both in terms of quantity and value. India produces 95 minerals, which include 4 fuel, 10 metallic, 23 non-metallic, 3 atomic and 55 minor minerals. The total value of mineral production (excluding atomic and fuel minerals) during 2019-20 has been estimated at INR 1,23,588 crore in which metallic minerals is INR 60,822 crore or 49.21% of the total value and nonmetallic minerals including minor minerals is INR 62,766 crore or 50.79% of the total value.

Socio-Economic problems in Mining Areas are almost the same in pan India, often the local populace know little about mining rules and policies, their rights and regulations, their occupational issues, process to mitigate their livelihood issues and problems, disturb family structure and system, health issues due to air, water, soil and noise pollution, burden of heavy traffic in all mode of commuting - roads and railways, accidents, road safety and security, mining closures, land reclamations, etc. Though, it is a major source of government's revenue but somehow adversely impacts the lives of mining families, no matter whether they are directly or indirectly. A report published

by a team of independent researchers in November 2017, titled ‘Health and Environmental Impact of Mining in Chhattisgarh’, said that they found the presence of “worrisome levels of toxic substances that adversely affect human health” in soil and sediment samples from the area. The fear of reddish water contaminated with iron ore is very high in certain pockets of Dantewada, Chhattisgarh, it is because of high iron contains in water, hence, villagers less rely on hand pumps and women with handis (pots) on their heads going to fetch water to nearby comparatively pure water source, though the GoCG had tried a project in 33 villages adjoining to Nareli and Guhari, but it could not steal a march on. Keonjhar district, considered being the mining hub of Odisha, a total of 64 mining projects have led to the diversion of 10,451.39 hectares of forest land over 38 years. According to government data, this was the highest loss of green cover in any district in Odisha since 1980. Talakainsari is a village panchayat, comprising several villages, in the Banspal block of the district. Frequent dumping of processed rocks–mineral-rich rocks leftover after mining, which are a source of air pollution as they make the area dusty — has escalated the woes of villagers. The people in the Jadugoda area of Jharkhand are affected not only by radiation from tailing ponds but also by lack of security at the mines. Fatigue, loosing appetite, respiratory sicknesses, rises in miscarriages, impotency, infant mortality, Down’s syndrome, skeletal deformities and different skin diseases, children with big heads, thalassemia have been reported, also the chances of tuberculosis among the miners is very high.

2. District Mineral Foundations – An Institutional Solution

In responding to the adverse consequences of mining activities, some of which have been documented in the section above, the Government of India has introduced a number of reforms. Simultaneous with the decision to open up the mineral sector to the private sector, the decision was balanced to ensure mining contributes to the sustainable development goals, by minimizing damage to environment, health and livelihoods. In fact, using the "polluter pay: principle", it was felt that some of mining royalties should be used for environmental regeneration as well as constructing facilities and starting programs for promoting health, education and livelihoods in the mining areas.

The Mines and Mineral (Development and Regulations) (MMDR) (Amendment) Act, 2015 instituted the District Mineral Foundation (DMF) through an amendment under India's central mining law—the Mines and Minerals (Development and Regulation) Act (1957) — with a precise objective to 'work for the interest and benefit of persons, and areas affected by mining-related operations. Conceptualized about a decade ago to address the ironic inequality in India's mining districts, where the richest lands are inhabited by some of the country's poorest and most deprived, DMF came into effect to eradicate such inequality and ensure socioeconomic and environmental justice for these people.

District Mineral Foundation (DMF) is a trust set up as a non-profit body, in districts affected by the mining works, to work for the interest and benefit of persons and areas affected by mining related operations. It is funded through the contributions from mineral royalty. Its manner of operation comes under the jurisdiction of the respective State Government. Further, recognizing that people's relevance and participation lies at the core of this institution, the objective and functioning of DMF has been tied to three primary laws of the land — the constitutional provisions as it relates to Fifth and Sixth Schedules for governing tribal areas, the provisions of the Panchayats (Extension to Scheduled Areas) Act (PESA), 1996, and the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006—in short the Forest Rights Act (FRA).

The PMKKKY, a scheme of GOI for MMDR (Amendment) Act, 2015, made provisions for DMF has mandated 60% of the funds to be utilized for High Priority Areas, such as (i) Drinking water, (ii) Environment preservation and pollution control, (iii) Health care, (iv) Education, (v) Skill development, (vi) Welfare of women, children, aged and disabled people, and (vii) Sanitation and 40% of the funds to be utilized for (i) Infrastructure - Roads and Physical

Infrastructure, (ii) Irrigation and (iii) Watershed development. The projects implemented under PMKKKY help create a congenial mining environment, ameliorate the condition of the affected persons, and create a win-win situation for the stakeholders. Under this scheme, INR 45,237 crore have been collected as on 25th March 2020. More than 1,30,000 projects have been sanctioned under PMKKKY.

The state DMF rules and the DMF Trust deed circulated by the Union ministry of mines indicate the administrative arrangements that DMFs should follow. These include setting up the Governing Council and Managing Committee for operations of the Trust, registering DMFs, setting up a DMF office for coordination, planning and monitoring and developing websites for transparency and accountability.

In twenty mineral rich states and two newly created UTs in India, in a total of 575 districts, District Mineral Foundations have been established. Central and state governments have made provisions and carved out rules and regulations for the same, these rules are as per the guidelines given by the Union Ministry of Mines with some variations on spatial context.

Table 1: National Status of DMFT as on March 2021

S. No.	States	Total districts in the state	Districts, DMFs established	Collected in DMF (INR in Cr.)
1	Andhra Pradesh	13	13	1159
2	Chhattisgarh	28	28	6470
3	Goa	2	2	216
4	Gujarat	33	32	827
5	Jharkhand	24	24	6533
6	Karnataka	30	30	2336
7	Maharashtra	36	35	2250
8	Madhya Pradesh	52	51	3683
9	Odisha	30	30	11985
10	Rajasthan	33	33	4497
11	Tamilnadu	32	30	763
12	Telangana	33	32	2956

13	Assam	33	33	89
14	Bihar	38	38	91
15	Himachal Pradesh	12	12	183
16	Jammu and Kashmir (UT)	20	20	33
17	Ladakh (UT)	2	2	0.3
18	Kerala	14	14	32
19	Meghalaya	11	6	63
20	Uttarakhand	13	13	130
21	Uttar Pradesh	75	75	876
22	West Bengal	23	22	65
	Total	587	575	45237

Source: Ministry of Mines, GOI and Department of Mines of studied States (March 2021)

DMFs have been constituted as per guidelines laid down by the central and state governments. All these DMFs have collected INR 30,819.39 crore as of July 2019. More than one third of this fund (i.e. INR 11,376.79) was collected in just one financial year i-e 2018-19. Top 20 DMFs located in eight different states hold nearly 50% of the total fund collected under the scheme. As of November 2018, these DMFs had INR 15,350.48 crore in their kitty. Details of DMF funds in these districts are given in the following table.

Table 2: Top 20 Districts DMF Status based on Total Amount collection as on Nov. 2018

S No.	Districts	States	Total Amount Collected in INR Cr.	Amount Spent in INR Cr.	Amount Spent in %
1	Keonjhar	Odisha	2341.82	277.1	11.83
2	Korba	Chhattisgarh	1320.22	607.58	46.02
3	Singrauli	Madhya Pradesh	1174.83	250.21	21.3
4	Sundergarh	Odisha	1125.26	226.9	20.16
5	Angul	Odisha	944.44	137.27	14.53
6	Dhanbad	Jharkhand	858.28	314.23	36.61
7	Ballari	Karnataka	784.12	29.14	3.72
8	Dantewada	Chhattisgarh	774.51	292.83	37.81
9	Bhilwara	Rajasthan	743.72	107.84	14.5
10	Jajpur	Odisha	641.68	115.26	17.96

11	West Singhbhum	Jharkhand	616.03	74.96	12.17
12	Peddapalli	Telangana	583.71	0	0
13	Ramgarh	Jharkhand	523.69	231.7	44.24
14	Rajsamand	Rajasthan	519.59	137.28	26.42
15	Jharsuguda	Odisha	508.3	89.73	17.65
16	Chatra	Jharkhand	476.17	28.73	6.03
17	Badradri	Telangana	422.06	0	0
18	Chandrapur	Maharashtra	381.69	40.05	10.49
19	Bokaro	Jharkhand	317.49	10	3.15
20	Mancherial	Telangana	292.87	0	0

Source: CSR Box, November 2019

3. Overview of the Study of DMFs

While top 20 DMFs have around 50% of the total fund under the scheme, they vary in terms of spending the collected amount. Korba in Chhattisgarh and Ramgarh in Jharkhand were leading in terms of spending the collected fund. However, many DMFs in the list could not spend the fund at all, while earlier study took place. The performance of DMFs in terms of spending was also varying within the state. For example, Dhanbad DMF had spent more than 36% of total accrual and Bokaro DMF of the same state could spend only 3% of the total accrual. The data presented in the table indicates that there is a difference in the performances of DMFs across the country despite being governed by the same set of guidelines issued by the central government.

Since the fund is big in the major districts, state secretariats try to control DMFT and its funding mechanism in various sectors as mentioned in PMKKKY. More control of state secretariats on DMF funds and their functioning restrict the District Mineral Foundations' turn over new leaf, prefer innovations and step by step convergence with other schemes. Research studies conducted earlier from various organizations on DMF functions and they suggested improvements in project designing by proper involvements of mining-affected families- however in places where elected representatives were proactive, innovations took place; otherwise, fund utilization was the same as similar to the other rhetoric government schemes.

There was a need for proper scoping of involvement of each level, mainly central government, state governments, democratic decentralised bodies, district mineral foundation and mining affected families- and various administrative models, coordination mechanism, convergence and process of innovation in various schemes of the government; hence, the study was suggested so that the vision behind the change in MMDR act stand to reason and DMFTs become feasible and realistic rather than rhetoric.

3.1 Objectives of the Study

- To assess, from the available literature the extent of environmental damage and non-sustainable development caused by mining in various states;
- To assess the performances of DMFs in selected states and districts;
- To understand causes and consequences of differential performances of DMFs across the country; and
- To suggest policy and institutional mechanisms at the national, state and district level for the effectiveness of DMFs.

- To evolve a framework for using the DMFs to promote environmental regeneration and meeting the sustainable development goals (SDGs) by 2030

3.2 Study Methodology

To make the study field based and derive the recommendations from various stakeholders, five different states have been studied, with two districts in each state, at least one with a high performing DMF. The states were Jharkhand, Odisha, Chhattisgarh, Rajasthan and Madhya Pradesh. The districts from each state have been given preference as per their strategic importance, fund utilizations, innovations in projects and managerial mechanism.

Table 3: Study Coverage - States and Districts

States	Districts
Jharkhand	West Singhbhum and Bokaro
Odisha	Kendujhar and Jajpur
Chhattisgarh	Korba and Dantewada
Rajasthan	Bhilwara and Udaipur
Madhya Pradesh	Betul and Panna

A central strata of India, minerals rich belt, has been studied to know the differential performance of DMF. This strata covered 26.3% geographical area (865399 Sq km) of India.

Qualitative research methods were used for the purpose of data collection. These methods included, stakeholder consultation, semi-structured interviews of stakeholders, group discussion, field observations and case study analysis.

Stakeholders for this study were: State Level Officials, District Collectors, Zila Panchayat Officials, Elected Representatives- Lok Sabha, MLAs and Panchayati Raj System. The study team collected secondary data through all line departments coming under DMFT high priority and other priority sectors and far and near their projects interventions.

3.3 Time Frame and Team

The study was conducted in the last quarter activities of RGICS, from Jan 2021 to March 2021. Under the overall guidance of the RGICS Director, Shri Vijay Mahajan, Dr Vishal Massey led the study, in which Shri

Jeet Singh, Shri Manoj Mishra, and Shri Murari Goswami participated. Mr. Mohsin Khan provided assistance in the literature survey and also participated in the fieldwork in Chhattisgarh.

3.4 Expected Benefit of the Study

We hope that this study will bring to light many issues and provide enough solutions to make the best use of DMFs in particular for Environment and Development. With DMFs coming into effect, the right of the people to benefit from natural resources has been recognized for the first time. The provisions make it clear that DMF is not just any other development fund or government scheme. It is a people-centric vision of natural resource governance where their right to benefit has been put at the forefront. Hence, if developed and implemented well, DMFs not only have immense potential for ameliorating the lives and livelihoods of some of the poorest communities, it can be a model for inclusive governance. Mining related operations largely affect less developed and remote areas, and vulnerable sections of the population, especially Scheduled Tribes. It is necessary that special care and attention be devoted, in an organized and structured manner, so as to ensure that these areas and affected persons are benefited by the mineral wealth in their regions and are empowered to improve their standard of living.

The overall and national trends have a big critic that DMF is deviating from its people- centric objective, as well as failing to serve the intended beneficiaries. Both in terms of administration and fund use, it should not be distinguishable as any other general development fund. The real challenge, nevertheless, is to run from ‘knowing’ to ‘wanting’ to ‘acting’ to ‘reaping benefits’. The demand of the hour is, thus, to insist on mechanisms and undertake necessary reforms. Though some state governments are trying various institutional set-ups to strengthen DMFs but it is required to have in depth research which can generate and manage knowledge, so that proper inputs can be given to state governments to facilitate development works in mining affected areas. This study will provide enough opportunities for better reflection upon development aspects of mining affected areas at large.

4. Development Yardsticks of the States

Indicators are quantitative or qualitative yardsticks that provide a simple and reliable basis for assessing achievement, change or performance. They are means of analysing and monitoring the characteristics of operations, services and processes and their implementation. In addition, they can also be used to measure, monitor, evaluate and improve performance. The PMKKKY, has specific sectors based made for DMF has mandated 60% of the funds to be utilized for High Priority Areas. Therefore, the study team has tried to evaluate various states on the some sectors based yardsticks of PMKKKY.

Drinking water and sanitation: It is essential that households should have adequate drinking water through tap connections. However, the drinking water supply is a complex subject with various social, environmental and technical challenges like geo-genic and anthropogenic water quality issues, long-term potable water supply in harsh edapho-climatic conditions and disaster-prone areas, measurement and monitoring of water service delivery, behaviour change management, cost-effective greywater treatment and reuse etc. However very little happened in these areas. These states took benefits through the National Jal Jeevan Mission, Urban and Rural Development Departments. State Water and Sanitation Mission (SWSM), District Water and Sanitation Mission (DWSM) and Paani Samiti / Village Water Sanitation Committee - sub-committee of Gram Panchayat (GP). The public health engineering department works in collaboration with panchayats and urban bodies in the states, as well as water boards.

In Aug 2020, total 17.87 Crore rural households existed in India, out of them 3.28 Crore (18.33%) households had been with Functional Household Tap Connection (FHTCs). However, the progress of India in developing the water pipeline and other infrastructure for FHTC is really remarkable.

Table 4: FHTC as on March 2021

State / Nation	Number of Rural House Holds	Households with FHTCs	Percent
India	19.19 Cr	7.39 Cr	38.5 %
Odisha	85.66 Lakh	23.64 Lakh	27.6%
Chhattisgarh	45.48 Lakh	5.66 Lakh	12.4%
Jharkhand	58.96 Lakh	7.54 Lakh	12.7%
Rajasthan	101 Lakh	19.79 Lakh	19.54%
Madhya Pradesh	123 Lakh	38.96 Lakh	30.96%

Pan India 60 districts (out of 718 districts) of India are hundred percent FHTCs, all sampled states are less than the national average or percentage of FHTCs. Madhya Pradesh and Odisha did significantly in this process, still the districts where the fund of DMFTs is available should synchronise with JJM and other schemes to ensure tap water in households.

India has shown it is committed to universal sanitation coverage in mission mode to make "open defecation free" (ODF) to all villages, gram panchayats, districts, states and union territories. Most of them are on-site sanitation facilities which means pit latrines. GOI has now embarked on various actions for ODF- Plus to reinforce ODF behaviours and focus on providing interventions for the safe management of solid and liquid waste in villages, a significant amount in all the states has already been spent from DMFTs in convergence with Swachh Bharat Mission. Sewage is often in a bad state, in major cities and urban areas of these districts a large number of sewage finds its way to ponds, lakes, and rivers without treatment. Sewage treatment plants are a costly affair, this cannot be met out in DMFTs, however, small gaps can be filled to enhance rural and urban departments operations in this sector.

Health Care and W&C Development: Indian healthcare delivery system is categorised into two major components, public and private. The Government, i.e. public healthcare system, comprises limited secondary and tertiary care institutions in key cities and focuses on providing basic healthcare facilities in the form of primary healthcare centres (PHCs) in rural areas. The private sector provides the majority of secondary, tertiary, and quaternary care institutions with major concentration in big cities. The Covid-19 pandemic has served a stark reminder that economies can be brought to a grinding halt if public healthcare systems are inadequate, clearly demonstrating the need for increased investment in the sector. India requires 15 doctors and 20 hospital beds per 10,000 people, we currently only have about half of that number. This translates to 700 million people underserved by the system. The country has 529 medical colleges, 313 Dental Colleges for BDS & 253 Dental Colleges for MDS, 1909 Institutions for ANM, 6861 Institutions for Nursing and 1682 Pharmacy Institutions.

Altogether 4035 hospitals and 27951 dispensaries to provide Medical care facilities under AYUSH. For rural populations there are 158417 Sub Centers, 25743 Primary Health Centers and 5624 Community Health Centers are available. During covid pandemic, all states have failed to control their vulnerability in health service point of views. The pressure on medical colleges is high as states could not make decentralised medical facilities in various districts. The state of Jharkhand has fewer medical colleges and attached

beds facilities in hospitals. As far as medical and health infrastructure point of views, the state of MP and Rajasthan have satisfactory infrastructure facilities but in all the state it is required to put focus on community health services in much more aggressive ways, the DMFTs can add value.

Table 5: Health Infra in the states

Health Infra	India	Jharkhand	Odisha	CG	Raj	MP
Medical Colleges	520	3	12	9	23	33
Medical Colleges with beds in attached hospital	**	2514	6922	5139	15061	11770
Sub Health Centre	158417	3848	6688	5200	14405	11192
PHCs	25743	298	1288	793	2078	1171
CHCs	5624	171	377	169	588	309

Source: Ministry of Health, GoI (2019)

It is highly unfortunate that GOI has only released the key findings for 22 States/UTs included in Phase-I of National Family Health Survey (NFHS-5) in 2019, the states where the present study conducted is not included in the same. Hence, key indicators are being analysed on the basis NFHS-4 (2015-2016) and Health Profile of India 2019. They also need to revisit the present health emergency scenario, further surveys to be conducted and strategies to be carved out to protect the nation and these states.

Table 6: Health and W&C indicators of the state

#	Health Indicators (NHFS 4: 2015 - 16)	Jhar	Odisha	CG	Raj	MP
1	Sex ratio at birth for children born in the last five years (females per 1000 males)	919	932	977	887	961
2	Population (female) age 6 years and above who ever attended school (%)	61.1	67.8	67.6	57.2	52
3	Households with electricity (%)	80.1	85.5	95.6	91	89.9
4	Children age 12-23 months fully immunized (BCG, measles, and 3 doses each of polio and DPT) (%)	61.9	78.6	76.4	54.8	53.6

5	Women whose Body Mass Index (BMI) is below normal (BMI < 18.5 kg/m2) 14 (%)	31.5	26.5	26.7	27	28.4
6	Children age 6-59 months who are anaemic (<11.0 g/dl) (%)	69.9	44.6	41.6	60.3	68.9
7	Institutional births (%)	61.9	85.3	70.2	84	80.8

Source: NHFS, GoI

NHFS 4 health indicators of the West Singhbhum are generally below the state average and Bokaro are mostly the same as the state average. However, Jharkahnd state itself has one of the lowest health data in the country. Looking at anaemic data for children in West Singhbhum the percentage of the children found to be anemic is at staggering 83%. One of the lowest in the country. The institutional birth which indicates better health services for the mother and newborn even here West Singhburn is lowest in the state. Likewise most data shown for West Singhbhum are below state average.

Education and Skill Development: Education is one of the most important indices of human development and as the society is moving from the stage of what Durkheim called Mechanical Solidarity to Organic Solidarity or from labour intensive stage to knowledge-based stage the importance of education in general and methodical education in particular is increasing. Education not only equips individuals and groups to adjust with the situation rather it also empowers them to have control over the situation. And for this purpose, education changes itself in terms of both types and content looking to the existing and the expected upcoming -situation.

The Indian education system can broadly be considered as a pyramidal structure:

1. Pre-primary level: 5-6 years of age.
2. Primary (elementary) level: 6-14 years of age. The elementary-level education is guaranteed by our constitution under Article 21 A. For this level, the government has introduced Sarva Shiksha Abhiyan (SSA) under the Right To Education(RTE) Act.
3. Secondary level: Age group between 14-18. For this level, the government has extended SSA to secondary education in the form of the Rashtriya Madhyamik Shiksha Abhiyan.
4. Higher education: generally, of three levels: UG, PG, MPhil/PhD. To cater to the requirements of higher education, the government has introduced Rashtriya Uchhattar Shiksha Abhiyan (RUSA).

Table 7: Institution infra for Elementary Education

State/ Nation	Primary Schools (Up to 5 class)	Upper Primary Schools (6-8 class)
India	847,118	429,624
Chhattisgarh	35,149	15,019
Jharkhand	28,010	15,917
Madhya Pradesh	88,593	47,276
Rajasthan	42,544	37,656
Odisha	36,760	22,795

Source: Education Statistics of India, 2019

Though, the number of infrastructure for elementary education is significantly high in Madhya Pradesh, the state of Chhattisgarh and Jharkhand are far behind, the quality of elementary education and learning level are always a matter of concerns in all the states.

Over 1.5 million schools in all categories and 50,000 higher educational institutions are operating in India. Out of 907 universities, there are 399 state universities, 126 deemed-to-be universities, 48 central and 334 private universities. According to the old surveys on higher education the gross enrolment rate in Chhattisgarh, Jharkhand and Odisha is less than 20%, these states need special attention in this area as well as skilful trainings- as skilful youths with higher education degree and diplomas could get high pay jobs.

Table 8: Gross Enrolment Ratio (Higher Education)

States	All Categories	SC	ST
Chhattisgarh	14.6	13.8	8.8
Jharkhand	15.4	11.1	10.2
Madhya Pradesh	19.6	14.4	7.8
Odisha	17.7	12.2	7.9
Rajasthan	20	14.7	15.8
Source - Ministry of Human Resource Development, Department of Higher Education, New Delhi, All India Survey on Higher Education-2014-2015			

Irrigation: The per capita availability in terms of average utilizable water resources, which was 5247 m3 in 1951 (presently 1453 m3) is expected to dwindle down to 1170 m3 by 2050 (CWC, 2015). Agricultural sector alone consumes 80% of the ground water (Harsha, 2017). The declining trend of groundwater level in all parts of the country also indicates that the assured supply

of good quality water will become a concern for the country's development (Manivannan et al., 2017).The overall efficiency of the flood irrigation system ranges between 25-40% (Amarasinghe, 2007). India receives mean annual precipitation of about 3880 Billion Cubic Meter (BCM). The average annual water availability, after evaporation, is assessed at 1999.20 BCM. Due to geological and other factors, the utilizable water available is limited to 1122 BCM per annum, comprising of 690 BCM of surface water and 432 BCM of ground water. Out of this, the water potential utilized is around 699 BCM, comprising of 450 BCM of surface water and 249 BCM of groundwater. Total requirement of the country for different uses for high demand scenarios for the years 2025 and 2050 has been assessed as 843 Billion Cubic Meter (BCM) and 1180 BCM respectively. Water availability per person declines progressively with the increase in population. For India, the average annual per capita water availability of water for the years 2001 and 2011 was assessed at 1816 cubic meters and 1545 cubic meters respectively. The average annual per capita water availability is projected to further reduce to 1340 and 1140 in the years 2025 and 2050 respectively. As per Falkenmark Indicator, annual per-capita water availability of less than 1700 cubic meters is considered as water stressed condition, whereas annual per-capita water availability below 1000 cubic meters is considered as a water scarcity condition. All the states- are in water stresses and scarcity conditions and availability of water is further deteriorating.

5. State-wise Analysis of Processes and Performance of DMFs

In five states we studied, maximum funds have been accrued in Odisha, thereafter, Jharkhand, Chhattisgarh, Rajasthan and Madhya Pradesh. In all these states, State Level Committees have already been formed.

State	Chairman of State Level Committee
Jharkhand	Chief Minister
Odisha	Chief Secretary
Chhattisgarh	Chief Minister
Rajasthan	Minister in charge of the Mines and Petroleum Department
Madhya Pradesh	Chief Minister

Every district has its own economic opportunity and capacity, on an average, a district may have the capacity to spend INR 200-400 Cr per annum in all development projects across the country; therefore, various states made certain provisions to share annual accrual to other districts as per state specific proportions. Madhya Pradesh and Rajasthan states have created "State Mineral Fund", where district level funds are transferred in SMF. Department of Finance, Secretariat, Bhopal is the nodal department to handle this fund in Madhya Pradesh, whereas Directorate of Mines and Geology, Rajasthan, Udaipur is custodian of this fund in Rajasthan. The state of Chhattisgarh is sharing a certain proportion of DMFT funds of large DMFT financial inflow districts to the nearby districts.

Table 9: State wise comparison of DMFT

Issues	Chhattisgarh	Rajasthan	Madhya Pradesh	Odisha	Jharkhand
State Level Committee	Yes	Yes	Yes	Yes	Yes
SSC Chaired by	Chief Minister	Minister - Mines and petroleum	Chief Minister	Chief Secretary	Chief Minister
District Level Committee	MC and EC	MC and EC	MC and EC	MC and EC	MC and EC
Role of District In charge Minister	District In charge Minister is the Chairman of EC	District In charge Minister is the Chairman of EC	District In charge Minister is the Chairman of EC	District Collector/ Rev Divisional Commissioner is the Chairman	District Collector is the Chairman

Issues	Chhattisgarh	Rajasthan	Madhya Pradesh	Odisha	Jharkhand
Secretary of DMFT	CEO Zila Panchayat	District Mining Officer (Mining Engineer/ Member Secretary posted at district headquarter	CEO Zila Panchayat	Project Director, District Rural Development Agency, the Chief Executive of the Trust	CEO Zila Panchayat
Limit of DMF Committees	Up to 10 Cr	Up to 2 -5 Cr	Up to 10 Cr	No limit.	Up to 5 Cr
Technical Sanction from Line Dept	Yes	Yes	Yes	Yes	Yes
Key Role of Dept.	Rural Dev and Mining Depts	Mining Department	Rural Development and Mining Departments (District) ; State Mineral Fund- Finance Department	Planning Department	Mining Department and Rural Development Depts
Project Management Units	State is planning their own	State is planning their own	State is planning a tender for outsourcing (State and District PMUs)	Outsourced to private consulting companies (State and District PMUs)	In a process to outsource to private consulting companies

5.1 Chhattisgarh

Chhattisgarh is rich in the field of mineral exploration, with more than 28 minerals, the State is one the richest in the mineral resources and a perfect geological set up for economic mineral deposits - it has observed multiple thermo tectonic events covering principal metallogenic and mineralogenic

District: 28
Tehsil: 149
Gram Panchyat : 10749
Block : 146
Village : 20086
Population : 25545198

episodes. Combination of cratons, mobile belts and supracrustal belts occupy a large part of the State, which provide a conducive environment for hosting a large variety of mineral deposits.

Table 10 : Mineral Resources in CG

Major Mineral Resources and their Production in Chhattisgarh		
Minerals	Production in MT	% of Total Production in India
Coal	54912	17.91
Iron Ore	3292	18.41
Limestone	8959	4.48
Dolomite	847	10.96
Bauxite	171	4.91
Quartzite	27	2.15

Important minerals with which the name of the State is intimately associated are Diamond, Coal, Iron Ore, Limestone, Dolomite, Bauxite and Tin Ore, precious metals like Gold and Atomic minerals also occur in the State. Other minerals include Corundum, Clay, Quartzite, Base metals, Fluorite, Beryl, Anadalusite, Kyanite, Sillimanite, Talc, Soapstone and Garnet. Vast reserves of granite of various attractive shades, which can be used as decorative stones, are also available in the State. Here, DMFs have been established in all 28 districts, total accrual is more than INR 6,300 Cr which is third in India after Odhisa and Jharkhand. The study team covered- Dantewada, Korba and Kanker.

DMFs in Chhattisgarh (Status) as in March 2021:

Particulars	Amount (in Cr.)
Total Collection	6,470.00
Total Approved Plan (in Cr.)	5,209.00
Total Sanctioned Amount (in Cr.)	6,708.00
Total Expenditure (in Cr.)	4,472.00

Source: https://www.dmf.cg.nic.in/ Dashboard.

The study team met the Minister for Mines, the Secretary, Mineral Resource Dept, the Director and the Deputy Director of Mining and

Geology. They visited the districts of Dantewada and Korba and met the District Collectors and other departmental, as well as NMDC and NTPC officials.

5.1.1 DMF Processes and Performance in Chhattisgarh

- Following the guidelines issued by the central government, the Chhattisgarh state government further developed a state level mechanism for smooth functioning of DMFTs. It is observed that the current government has focused on democratization, decentralization of funds, ensuring the involvement of people through elected representatives and equitable distribution of the fund.
- Chhattisgarh has not come up with any specific instructions on identification of the directly affected areas. In absence of guidelines, various districts are identifying directly affected areas or villages in their own way. The entire district (apart from directly affected areas) is considered indirectly affected under the pretext of mineral transportation through various parts of the district and associated pollution risks.
- For DMF offices, the state government has issued an order for DMF offices in the districts. Districts have been placed under the categories depending on the receipt of funds in DMF Trusts. A Deputy Collector level officer will look at the day-to-day operations of DMFT under the supervision of the District Collector. State is planning to appoint professional staff under the PMU on contract basis. The department of mines and minerals is in favour to give preference to local professionals in PMUs rather than outsource to multinational consulting companies.
- Chhattisgarh is approaching DMF as an area development fund to extend the reach of DMF funds. The six big mining districts in the state have been directed by the state government to share a predefined proportion of their DMF funds with the neighboring districts. The state has identified 14 districts which will receive this contribution in varied proportions from neighboring districts.
- The DMF policy in the state provides space to District Collector to devise an effective management system for effective planning, management, implementation and monitoring of DMF projects.

For example, in Korba district, developing a detailed DPR for every project by line departments is mandatory. The DPR needs to explain objective, scope, expected benefits and beneficiaries in detail along with technical and financial suitability. These DPRs are further reviewed by a proposal review committee before submitting to the managing committee of DMFT.

- It has been informed, despite providing space for selected panchayat representatives in the governing council of DMFT, their participation in planning was not effective. So, some Collectors have been organizing special meetings of panchayat representatives of mining areas to listen to their voices. Through these meetings, the Collectors have tried to incorporate their project proposal in the action plan of DMFT.
- Stakeholder Participation: The updated guidelines of DMFTs through an amendment in 2019, provided for participation of elected representatives. As per the new guidelines, the minister in-charge of the district heads the governing council of DMFTs. Furthermore, all MLAs from the district and selected panchayat representatives are members of the governing council. Often, these representatives and line departments submit their wish list in the meeting of the governing council. It is then the responsibility of the management committee to further review these approved projects for their suitability for funding under DMFT and prepare detailed project proposals. Participation in implementation supervision, monitoring or impact assessment is not there as after the approval, these are treated as normal government projects.
- DMFT Fund and its Geographical Distribution: The successive state governments of Chhattisgarh defined effects of mining in a broad sense. Though mines per se may be in a district, the effect of mining can cut across district boundaries, by affecting air, water and soil quality as well as fauna, flora and human life. They also took in consideration the movement of minerals from different parts of the states and their environmental, social and administrative affects. So, the Chhattisgarh government has taken steps to distribute the fund accrued to the main districts amongst other neighbouring districts. This system provides for equitable distribution of the fund. Despite this mechanism, few districts

such as Dantewada and Korba have relatively high fund due to major mining sites in these districts.

- DMFT Planning (Comprehensive, Long Term Planning vs Wish list of the Moment): While there is a common set of guidelines for DMFTs issued by the government, at the district level collectors have devised mechanisms for planning and implementation of the DMFT fund. In many cases, DMFT plan is just a collection of wish lists submitted by line departments and public representatives. The durability, sustainability and inter-connected impacts of such planning are an issue. Though, all districts in the state have worked on a need assessment document of mining villages, but the large part of the amount is invested through wishlist planning. On the other hand, a few well-planned projects in various districts, such as English medium schools, operation of schools and hospitals in LWE areas and operation of 'Gauthan' (Rural Industrial Park) in different villages.

5.1.2 Use of DMFs for Environment and Development

Hospital Renovated through DMFT Fund in Korba and a Burn Unit Established

OT developed in Korba District Hospital

Atmanand English Medium Schools in slum areas and rural areas of CG

Dantewada Garment Factory established by DMFT

Farmers from Khatghora, Korba, and many more villages enjoying convergence of various schemes under a lead scheme od Samuhik Kisan Yojna of Horticulture Department in Samudayak Badi, here income has increased in many folds; farmers received seeds and Mulches from DMFT, here the focus was integrated development of a group of farmers by convergence of many schemes. 56 Groups of Farmers are getting benefits in Korba district. MGNREGA scheme is also clubbed in various other groups.

A few well-planned projects in various districts, such as English medium schools which is based on modern and updated schooling systems and procedures, establishing garment factories for rural area employment and women empowerment, conceptualizing 'Gauthan' (Rural Industrial Park) in different villages in association of narva garva ghurva badi yojna and godhan yojana, special provisions for OT of pregnant women and establishing burn unit in Korba, early grade Literacy, supplementary nutrition, haat bazar clinic, canal and tank rejuvenation and diversification in Sukma etc. are the some of the good examples where DMFT fund is used.

5.2 Odisha

District : 33
Tehsil: 252
Gram Panchyat : 11,341
Block : 295
Village : 44672
Population : 68,548,437

`Odisha, the north-eastern part of the Indian peninsula, covers an area of 1,55,707 sq km. It is bounded by the Bay of Bengal on the east, Chhattisgarh on the west, Jharkhand on the north, Andhra Pradesh on the south and West Bengal on the north-east. The State has been divided into five major geo-morphological regions, namely, Orissa coastal plain in the east, middle mountainous and highlands region, central plateaus, western rolling uplands and the major floodplains. It has a long coastline of about 480 km, beautiful beaches also available here. The lush green forest cover of Odisha plays host to a wide variety of flora and fauna. Odisha is endowed with vast natural and mineral resources, which helps to build a substantial industrial base here. A large number of medium and small-scale industries which attracts the corporate sector at large. The major industries in the public sector - Steel plant at Rourkela, Alumina refinery at Damanjodi, Aluminium smelter at Angul, Indian Rare Earth Limited

at Chatrapur, Phosphate fertiliser plant at Paradeep and Urea plant at Talcher, etc.

Odisha's rich mineral reserves constitute 28% Iron ore, 24% coal, 59% Bauxite and 98% Chromite of India's total deposits. Besides the reserves of major minerals like chromite, nickel, bauxite, iron-ore and coal; other minerals like china clay, fire clay, limestone, quartz, precious and semi-precious stones, copper, manganese, graphite, vanadium etc. are also available here. Iron ore is abundantly available in the districts of Mayurbhanj, Sundargarh, Keonjhar and Jajpur. While chromite is confined to Jajpur, Dhenkanal and Keonjhar districts, manganese deposits are available in Sundargarh, Keonjhar, Rayagada and Balangir districts and Dolomite is available plenty only in the district of Sundargarh. There are two major coal bearing areas in the state which are currently being extracted, namely Talcher and the Ib valley.

In the state of Odisha, a visit was planned for Keondujhar and Jajpur Districts along with Bhubaneswar (Khordha district), and the research team had meetings with PMU officials, consultants and key line department heads along with District Collectors. The main focus was to understand the proposal processes, involvement of PMU, as it is operating in Odisha through various consultancy companies.

Keonjhar (Kendujhar) district has rich mineral deposits, chief in the mineral resource map of Odisha. The district fulfils state's, nation's and overseas demand of high-grade iron ore and manganese along with other minerals such as chromites, limestone, dolomite, nickel, granite, etc. Keonjhar is dotted with iron ore and manganese ore mines of varying production capacities. Major mining agencies here are Essel Mining and Industries Ltd., Orissa Mining Corporation Ltd., Tata Iron and Steel Corporation Ltd., etc. 62% of the total population of Keonjhar is living below the poverty line and the forest dweller tribal communities are the worst sufferers. The Juangs , a particular tribal community, mostly in mining areas, who totally depend on forest and agriculture for their livelihood and survival are worst affected. Kendujhar is recognized as Centre for excellence project management.

The Jajpur District is covering an area of 2887.69 sq km is moderately populated having a total population of 18,26,275 as per 2011 census. It has 10 Tahsils, 10 Blocks, 311 G.Ps, and 1781 Villages. In Jajpur District, the most industrially developed area is Kalinga Nagar, is situated

in Danagadi Block, where currently 4 small steel plants are operating and 9 more are on their way to start production. Big plants like Mesco, Neelachal Ispat, Maithan, Tata Steels, Brahmani Rever Pellets Limited and Jindal Stainless Limited have set up their operations here. Daitari mines are famous for the mining extracts, which the state exports to the outside world, thereby gaining substantial revenue.

5.2.1 DMF Processes and Performance in Odisha

- In Odisha the DMF rules of the state are in consonance with the Central government guidelines. PMKKKY is in full control of the Department of Planning. Also, PMU agencies, the main technical project bodies must be proactive in information sharing of projects approved, sanctioned and completed. As of now, districts with annual receipts of Rs 100 crore have set up PMUs. This has been established in the top five districts— Keonjhar, Sundargarh, Angul, Jharsuguda and Jajpur. The PMUs are being managed by consultants such as Earnest and Young, Pricewaterhouse Coopers. However, there is no dedicated DMF office, and one official is being identified as the DMF in-charge to whom the PMU will report.

- It is to be noted that the state is also adding on funds from the corpus that is with Odisha Mineral Bearing Areas Development Corporation (OMBADC), developed as a special purpose vehicle (SPV) in 2014. This now also has funds coming in from illegal miners who were directed to pay a hefty fine by the Supreme Court of India for illegally mining iron ore. This money, as per the apex court directions, must be used for the benefit of tribals in the affected districts.

- It is mandatory in PMKKKY that states should manage DMF portals, unfortunately as on visiting month (Feb 2021), a huge discrepancy has been seen as DMF State portal http://dmf.orissaminerals.gov.in and Government of India's Portal http://mitra.ibm.gov.in/pmkkky. Small calculation problems, tiny delay in up-gradation of data, basic human and technical glitch are always to be accepted, but it should not be a coordination failure in the Department of Steels and Mines and the Department of Planning of Odisha.

- Research team had a meeting with Joint Director Mining, who was earlier Nodal Officer to DMF and established DMFs in all the districts of Odisha. Thereafter, DMF was shifted to the Planning Department (2018), it was realized that rather than convergence of the scheme a systematic planning is essential, too many duplications were happening and this could lead fund drainage in the administrative and technical system. Hence, the planning department is seeing the major funding and major approvals of the projects.
- The system of royalty collection is very weak, and the mechanism of actual royalty and reflection in DMF through its percentage is not up to the mark. After the involvement of the Planning Department, the tiny role is left with Mining Department and their involvement in the development process through DMF. A transparent digital system of royalty collection and depositing in DMF is inevitably required here. However, it is only possible through political and bureaucratic will.
- Since the mining districts have fewer infrastructure funds from other sources, DMF funds of these districts are plenty here, the main focus of DMF to create mega infrastructure projects through PSUs. This somehow minimizes the actual spirit of DMF at large, or it needs to be revisited by central government and state government again.

5.2.2 Use of DMFs for Environment and Development

- Development Commissioner, Department of Planning, supported by the PMU, had made certain provisions for DMF and Mining affected direct families. All families and area which is 10 Sq KM radius from Mining Site considered as direct affected area and families, where a provision of maximum fund utilization is made by the state. This is to fulfill the mandate of providing maximum benefits to mining affected families with a rational approach – provided the projects are designed with consideration of their issues, problems identification, involving them and empowering them.
- In Keonjhar, total accrual of DMFT fund is more than INR 1029.90 Cr, and 1875 projects have been approved here, major allotment

in health care (INR 119.69 Cr), irrigation (INR 110.67 Cr), drinking water (INR 102.45 Cr), education (INR 47.04 Cr), women and child development (INR 5.92 Cr) and dousing (INR 4. Cr), etc. In Jajpur, total accrual of DMF is more than INR 2463.21 Cr, and 771 projects have been approved here, major allotment in health care (INR 410.55 Cr), irrigation (INR 290.62 Cr), drinking water (INR 152.05 Cr) and skill development (INR 34.38 Cr), utilization of DMF fund here is very little.

(A Mental Rehabilitation Centre in Keonjhar - only in the nation under DMFT)

By and large, the State is focusing on infrastructure projects, drinking water, health and education, whereas major decisions are being taken by bureaucracy; involvement of civil society leaders and elected representatives are not that much prominent and active as it is in nearby states. Often, the media raised issues of projects sanctioned by DMFT in the state, such as building for a medical college and making swimming pool DMFT funds.

5.3 Rajasthan

Rajasthan holds reserves of 81 minerals, in which 57 mineral deposits are being used for industrial purpose and are being extracted here. Main in these minerals are Zinc, Lead, Wollastonite, Calcite, Jasper, Selenite (100% in India), Silver, Gypsum, Rock phosphate, Red Ochre (90% in India).

Limestone, Marble, Granite of Rajasthan, Stone are well known worldwide. Ajmer, Bhilwara, Bikaner, Dungarpur, Jaipur, Pali, Rajsamand, and Udaipur are the main mining districts. Altogether, 22 cement factories are operational in the state, and the state is leading in Cement production in India. State is rich in oil and natural gases as well, oil reserves exist in Barmer district- Mangala, Vijaya and Bataiyu. Potash reserves are also available here.

Rajasthan has its peculiar nature of Mining, as most of the minor mineral sites (14,691) are operating and less major minerals sites (179); the tribal areas in nearby vicinity of mines are less than as compared to pan India. Hence, the problem of Mining Affected Areas and families are slightly different from Jharkhand, Odisha and Coal belts of Madhya Pradesh. The state has tremendous issues of opencast mining and often it changes geological, hydrological and geotechnical conditions. It influences the existing ecological system and landscape. The dust and noise affect not only the atmosphere and soil but also the whole human living space of the nearby territories, hence the episodes of Silicosis are high in numbers.

Here, Minister in charge of the Mines and Petroleum Department, Rajasthan is the chairperson for the State Level Empowered committee. (Order passed on 22nd Feb 2019). DMFTs have been established in all 33 districts of the state. Rajsamand (INR 1025 Cr), Bhilwara (INR 1299 Cr), Ajmer (INR 281 Cr) Udaipur (INR 450 Cr) are the main districts where the accrual total amount is on higher side as compared to other districts. Total accrual in DMF (State and Districts) is INR 4,497 Cr.

The study team visited Udaipur and Bhilwara for collecting field-based data, projects' observations, and meeting with key stakeholders. Udaipur district is situated in the southern part of Rajasthan state. It has a total area of about 11724 sq km, with a total population of 3068420 persons, an average population density of 242 people per sq. km. as per the 2011 census. There are 12 Tehsils or sub-divisions, 17 development blocks in the district, 11 panchayat samities and 2511 villages. Here, a number of places for base metal (Pb-Zn) deposits available at Zawar mines, Anjani and Nandvel, Rock phosphate deposit occurs at Jhamar Kotra. The extensive intrusions of Pegmatite and Quartz veins in the Vallbhnagar, Mavli, Ladasia, and Salumber are exploited to use in glass and ceramic industries. The crystalline dolomite is being exploited as Marble; the famous marble deposit near Sarvadi Bend is marketed under trade name Aravalli Onyx. Pink marble is also exploited near village Babarmal. The green marble and soapstone is exploited from ultrabasic rocks exposed in Rishabdeo, Kherwada, Gogunda and Jhadol. In total, the accrual of DMFT is INR 450 Cr, total 2628 projects have been approved and financial sanction has been given to 1501 projects. Main sectors of the projects are drinking water, woman and child development, child protection, pollution control and health.

Bhilwara has an area of 10,455 km², and a population of 359,483 (Census 2011). There are 12 development blocks in the district. The district generally consists of an elevated plateau. The eastern position of the district as a cluster of hills. The district is intersected by the Aravali ranges at several places. The district is well known for mica mining in the country for a considerably long period, but after the discovery of a huge deposit of lead-zinc near village Rampura- Agucha, this district has attained national importance. Other important minerals available in the district are copper ore, soapstone, clay, quartz, feldspar, garnet, dolomite, clacite, limestone, silica sand, marble, granite and sandstone. Total accrual in DMFT is INR 1299 Cr, and INR 3251 projects have already been approved from which 2083 projects have received financial approvals as well.

5.3.1 DMF Processes and Performance in Rajasthan

- No guideline is being provided by the state on identification of directly and indirectly affected areas. The districts are doing their own assessments to find out directly affected areas.
- None of the districts have identified DMF beneficiaries selection parameters, hence entire geographical areas of the district covered under DMFT mining affected areas as all the areas of the district is polluted due to minor and major minerals extractions, mainly through open cast mining.
- The proposal to establish state and district level PMUs is under consideration. DMFs in Rajasthan are currently being run from the CEO, Zila Panchayat's office in respective districts. The state government has established a set-up for DMF portal. Adequate information is displayed here.
- Like Madhya Pradesh, Rajasthan has also made provisions for the State Mineral Fund. According to the instruction passed by the Government. The State Mineral Fund shall be maintained at the Directorate of Mines and Geology, Rajasthan, Udaipur. The State Mineral Fund shall be utilized for undertaking projects/ works related to the development of the directly or indirectly affected mining areas of any district or projects/works which falls under the jurisdiction of multiple districts and for supplementing the public welfare schemes of the State Government and Central

Government which are in conformity with the objective of these rules by the State Level Empowered Committee specified in sub-clause (C) of Clause (II) of sub-rule (3) of this rule, notified on 1st July 2020, by Rajasthan Gazette. For the year 2020-21 and thereafter each year, the concerning DMF will transfer the amount to the State Mineral Fund as mentioned below.

S. No	Annual Accruals	% of transferable amount to State Mineral Fund
1	Up to 0-5 Cr	0%
2	From 5 Cr to 25 Cr	25%
3	More than 25 Cr	50%

The Accounts of the State Mineral Fund shall be audited every year by the Accountant General Rajasthan. Every district mineral foundation trust shall transfer to the State Mineral Fund.

5.3.2 Use of DMFs for Environment and Development

- The state has taken an important approach for supporting treatment of silicosis/ asbestosis patients and their dependents in mining affected areas through DMF funds. The Rajasthan Environment Health Administrative Board (REHAB) has directed the districts to give financial aid to such patients through DMF. The provision for this is part of the state's DMF Rules.
- DMFTs are being used in various development activities considered in their priorities- creating drinking water facilities, school building maintenance and renovations, toilets facility for girls in schools, health centres facilities in mining areas, equipment for health centres, support in child nutrition, a maternity benefit scheme on birth of the second child etc. These projects are more prototypes and address generic needs of the community.
- Since CEO Zila Panchayat has a significant role in DMFT planning and implementation, the reflection of Gram Panchayat Development Plan (GPDP), is very high in the state similar to Madhya Pradesh. This helps to avoid planning from scratch; nevertheless, there are ever existing issues related to the quality of the planning process- inclusion, participation, gender programming and ignorance of human development indicators while planning for the future. Relying more GPDP and filling the

gaps through DMFT will catch sight of development but it can be a shot in the dark in addressing the issues of Mining area.

- Rajasthan High Court took suo moto and asked the state government, "What are the possibilities of renovating Juvenile homes of Rajasthan from DMFT?". Thereafter, the Mining Department is carving out a project for them and would seek approval from the state level committee of DMFT. Though, the study team observed that Hon'ble High Court is looking for infrastructure support, which must be supplemented from other budget heads of the state government and support of DMFT should be on some soft aspects of Juvenile Justice, provided the proper need identification of the mining affected districts.
- Southern and Dang region of Rajasthan are forest areas and dominated by Scheduled Tribes. Mining in these areas reduced forest cover significantly and pushed forest dwellers out of their traditional livelihood. Western Rajasthan is mostly desert and water scarce region of Rajasthan. Mining of stones in the area further reduced the water availability for the people and most critically deteriorated the quality of water significantly. This created health hazards for people in general and women and children in particular. This has also reduced agricultural land significantly in the region. Health hazards related to air quality and dusts are an added burden for the people. Special projects should be carved out for these kinds of areas.
- Special area development programs for instance, Magra (Magra Area Development Authority) and Dang (Daang Development Board) areas. Another is Sahariya Viaks Pariyojna. These are special development vehicles that take care of the specific developmental needs of these areas. Convergence of PMKKKY with them can play a vital role in solving priorities of the state through the State Mineral Fund.

5.4 Madhya Pradesh

District: 52
Tehsil: 367
Gram Panchyat : 22,824
Block : 333
Village : 54,903
Population : 72, 626,809

The State of Madhya Pradesh is richly endowed with mineral wealth. It is the sole producer of diamonds in the country. Coal, limestone, manganese ore, bauxite, copper ore, dolomite,

fireclay, slate pyrophyllite-diaspore are the main minerals occurring in the State. Besides these minerals, the state is fast emerging as a dimensional stone producer.

The State is blessed with favourable geological and geotectonic settings. Rocks ranging from Precambrian to recent era to accommodate every episode of mine realization are present. In terms of the mineral production, the state ranks next only to Odisha, Jharkhand and Chhattisgarh. Details and rank of production in national level is shown in Table.

Table 11: Minerals in Madhya Pradesh

S.No.	Name of Mineral	Unit of Production	Production	Status of M.P. in India (%)
1	Diamond	Carat	2179	100
2	Slate	Tonnes	3	100
3	Pyrophyllite	Tonnes	45451	77.12
4	Diaspore	Tonnes	10888	64.27
5	Copper Ore	Thousand Tonnes	2270	69
6	Coal	Thousand Tonnes	59970	14.17
7	Limestone	Thousand Tonnes	24170	13.42
8	Iron Ore	Thousand Tonnes	1210	0.67
9	Dolomite	Thousand Tonnes	158	3.31
10	Laterite	Tonnes	75085	6.32
11	Rock-phosphate	Thousand Tonnes	113	7.11
12	Ochre	Tonnes	18915	2.37
13	Calcite	Tonnes	130	0.12
14	Manganese	Thousand Tonnes	489	22.82
15	Fire clay	Tonnes	44580	10.03
16	Steatite	Tonnes	149	0.02
17	Bauxite	Thousand Tonnes	144	0.92
18	Kaolin	Tonnes	14139	1.1
19	Shale	Thousand Tonnes	475	16.54
20	Clay (Others)	Thousand Tonnes	221	25.09
21	Quartz	Tonnes	80	0.03

Source: Department of Mineral Resources, GoMP.

Coal areas spread over in the district of Sidhi, Shahdol, Umaria, Betul, Chhindwara and Narsinghpur; which is 7.71% of total Coal reserve of the country. Subsidiary companies of Coal India Limited namely, NCL (Northern Coal Field Limited) is working in the Sidhi district, WCL (Western Coal Field Limited) in the Chhindwara and Betul districts and SECL (South Eastern Coal Field limited) in the Shahdol and Umaria districts. The Gotitoriya coal block of Narsinghpur district has been leased out to M/S BLA Industries for captive power generation. The country's thickest coal seam viz Jhingurda, which is 135 m thick, occurs in the Singrouli Coal Field of Northern Coal Field Limited.

The District Mineral Fund was established under Madhya Pradesh District Mineral Establishment Rules 2016. Though 51 districts have DMFs here out of 52 districts, only 22 District Mineral Foundations are operational and collecting funds in the foundation. DMFs in Madhya Pradesh (Status) as in March 2021, the total collection is INR 3683 Cr in which around projects have been approved and amount sanctioned is INR 1714 Cr.

Since no directive is available from the state government on the radius and periphery of mines or cluster of mines to consider families and areas as direct affected areas. In absence of it, all DMFs are identifying the directly affected areas in their own way. This somehow creates dissatisfaction in main blocks where the actual mining excavations are taking place. Proper DMF beneficiaries have not been identified by any of the districts, districts where mining royalty is coming through the Coal sector all families residing in the district considered as mining affected families. Though a project promoted by Madhya Pradesh, Water and Land Management Institute, as Centre of Excellence for Mining Affected Areas (CEMAA), did some efforts in Betul, but a directive is expected from the Government of Madhya Pradesh. Earlier, the state has set-up a DMF portal for putting up district-wide information, which needs to be regularly upgraded, meeting minutes, list of beneficiaries, mining-affected areas, and annual reports etc., to be clearly displayed here.

In Madhya Pradesh, the DMF Rules have created an 'exceptional provision' of creating a state corpus pooling from DMFs in various districts. Rule 13(2)(e) of the state DMF Rules specifies that a percentage of DMF annual accruals in the districts have to be transferred to this corpus called the State Mineral Fund (SMF). It has specified that money coming

to the SMF will be used to 'carry out works related to development in mining-affected areas of any district or the works which involve more than one district'. The works, thus, also should be targeted towards sectors that DMFs need to focus on.

SMF is being managed by the Finance Department of the state government. Hence, segregating this fund from the conventional approach of the finance department is always a challenge. Earlier, it had determined [for Rs 0–5 crore accrual, no amount is to be transferred; for Rs 5–25 crore accrual, 25 % of the DMF fund has to be transferred, and for accruals above Rs 25 crore, 50 % has to be transferred].

In the month of Nov 2020, GoMP came with the new guidelines, according to this guideline. The Executive Committee shall prepare an annual plan for every fiscal year, for the work to be carried out from the District Mineral Foundation. After approval from the board, this annual plan shall be sent for the approval of the state government–thereafter it will be carried out by DMF.

All DMFs shall transfer the percentage of their annual accruals to the state mineral fund in manners mentioned below.

S No.	Annual Accruals	% of transferable amount to State Mineral Fund
1	Up to 0-5 Cr	0 %
2	From 5 Cr to 25 Cr	50%
3	More than 25 Cr	75%

A committee also made up under the chair ship of CM with other members- Minister of Finance, Minister of Mineral Resources, Chief Secretary and Principal Secretary, Finance Department. By this way, a control mechanism of secretariat has increased on DMFs at district level.

The study team visited Betul and Panna for collecting field-based data, projects' observations, and meeting with key stakeholders. The district Betul has an area of 10,043 sq.km according to Census 2011. The district occupies 4th rank within the state in terms of area. District has 10 Development Blocks and 556 Gram Panchayats District Mineral Fund was also established under Betul district. From its inception year to the present time, funds are being collected in this fund. Around

INR 9.5 Cr collected in 2015, INR 13.2 Cr in 2016-17, INR 15.3 Cr in 2017-18, INR 15.6 Cr in 2018-19 and INR 10.38 Cr in 2019. In total, with other royalty received through WCL, it has reached around 75 Cr. However, proportionate money has already been transferred under the State Mineral Fund. Here major expenditure took place in drinking water supply, education and rural development projects. From April 2020 onwards, the Ministry of Finance has considered this fund under Covid relief. Hence, major expenditure took place in mass distribution of purchasing of masks, ventilators for Covid relief hospitals in Betul.

Panna District has an area of 7135 Sq. km. It has 5 subdivisions, 5 blocks, 9 tehsils, a municipality and 5 towns. It has 1033 villages and 395 Gram Panchayats. Panna district is famous for its diamond mines located in a belt of about 80 km. In olden days, the most productive mines were located in the village of Sukariuh. Nowadays, Majhagaon is the only active diamond mine and National Mineral Development Corporation (NMDC) is the only organized producer of diamond here. DMF Panna came into existence in 2016, though it has accrual inflow of Rs 6.5 Cr. The ranking of DMF inflow of the district, among other 22 operational DMF existing districts, is at lower end. However, it is expected that in near future, inflow will come through sand mining and minor mineral related royalty and NMDC related Dimond excavation. Since the fund is less as compared to the other mineral rich districts, it has only been used in small-small activities, mainly of purchasing goods for education and health departments, though maximum utilization took place in pandemic in health-related projects, purchasing of masks and its distribution. Silicosis is one of the most fatal diseases rampant among stone mining labourers across the state, mainly in Bundelkhand region. MP's Panna district is home to 60,000 labourers and has several stone mines. Unfortunately, the health department often treats them as a patient of tuberculosis, eventually it deteriorates their health problem further. Similar to the state of Rajasthan, Madhya Pradesh DMFT authorities should also make provisions for the patients of Silicosis.

5.4.1 DMF Processes and Performance in Madhya Pradesh

- Madhya Pradesh was the first state which created State Mineral Fund (SMF), however, a new guideline which has been passed by the government on the financial inflow of SMF, it has now encroached the domain and freeness of district control over the

fund and its planning, an intermediate or third party should be involved in creating innovating ideas, policy and project framing at the state level in convergence with State Mineral Fund. Though, it must be different from Project Management Units (PMU) and supportive to them. Without involving DMF PMU at State level and district level, it is difficult to carve out and implement innovative projects as Zila Panchayats and District Collectorate are overburdened.

- There was a provision of Zila Prabhari Mantri (District In-Charge Minister) in the earlier cabinet of the government and Zila Prabhari Mantri chaired the DMFT in Madhya Pradesh. Unfortunately, due to political uncertainty of the state, the government failed to appoint a district in charge minister, as a result- no project has been sanctioned in fiscal year 2020-21, though under Covid relief package, various collectors have utilized some proportion of this fund with the approval of Government of Madhya Pradesh under Covid Relief Package.
- In many cases, DMFT plan was just a collection of wish lists submitted by line departments and public representatives. The durability, sustainability and inter-connected impacts of such planning were the issues. Also, power domination among elected representatives on project approvals, somehow minimize the priority of Mining dominated areas in absence of specific guidelines on radius and periphery of mines or cluster of mines to consider families and areas as direct affected areas. It has been observed that wishlist was dominating the actual priorities of DMFTs.
- There is no such provisions for neighbouring districts in Madhya Pradesh just as it is available in Chhattisgarh (under area development approach) and in Odisha (as a provision of 10 km of radius from mines), the accrual amount is maximum in Singrauli district, but provisions for Sidhi district, which is actual a mother district of Singrauli also is possible only through State Mineral Fund. State Level Committee of the DMFT should opt for an area development approach for certain mineral rich and over extracted areas of Madhya Pradesh.

5.4.2 Use of DMFs for Environment and Development

- Though various DMFTs are doing their best efforts on their own, some relevant cases have been reflecting the development paradigm of the state. Such as in Singrauli under education department dual desks were provided in all govt. middle, high and senior secondary schools, construction of boundary wall and old school buildings were renovated, and converting building as a learning aid (BALA) and Young professionals recruited to overcome the shortage of guest teachers under the initiative "Shiksha Sarathi"; converging with NITI Ayog Aspirational District Program and distribution of equipment and aids to differently abled peoples.
- Gram Panchayat Development Plan (GPDP) through Panchayat and Rural Development Department supports the DMFT Planning process, its reflection is to make best use of convergence of schemes, however, more involvement of stakeholders are needed to avoid negative aspects of a wish list of elected representatives as well.
- The Public Health Engineering Department is running Nal Jal Yojna effectively in most of the districts, Jal Jeevan Mission has boosted up the work of drinking water supply in convergence with DMFT. The next priority is school education. Less emphasis has been given on environment and skill development projects, whereas old age care is completely missed out in the project outlays of the entire DMFTs.
- It is recommended that environmental, green business, green skill development and livelihood enhancement projects must be promoted in mining affected blocks, also mining closures to be taken systematically with environmental sustainability point of views.

5.5 Jharkhand

Jharkhand stretches over 79,714 Sq Km geographical areas, which is plenty of forest and mineral resources due to its diversified geological set up comprising lithological sequence ranging from

District: 24
Gram Panchyat : 4364
Block : 260
Village : 32,620
Population : 32,988,134

Achaean to Recent. All these formations contain deposits of energy, ferrous, non-ferrous, fertilizer, industrial, refractory, atomic, strategic, precious and semi-precious groups of minerals. The State Occupies 1st position in coal reserves, 2nd position in Iron, 3rd position in Copper ore reserve. Limestone, Dolomite, Manganese, Mica, China Clay, Graphite, Soapstone, Fire Clay, Coal Bed Methane, Uranium, Phosphorite, Apatite, Quartz, Feldspar, Gold and Pyroxenite are the other important minerals available in huge quantities in State.

Nov 2015, Government of Jharkhand issued notification for the constitution of DMF Trust in each district of Jharkhand along with details of the Governing Council and Management Committees. Jharkhand District Mineral Foundation (Trust) Rules, 2016 incorporating PMKKKY was notified. All districts of the state have DMFT operational. Till March, INR 6533 Cr was the total accrual in state DMFT.

The study team has explored two districts - West Singhbhum and Bokaro and a couple of meetings with DMF EC members and Elected Representatives conducted here. West Singhbhum district is in the south part of Jharkhand, it is the largest district of Jharkhand according to the geographic area. As per Census 2011, the district covers an area of 7,224 Sq Km (or 722,400 ha)[8]. The administrative headquarter of the West Singhbhum district is located in Chaibasa town, just in front of Tata College. There are 18 development blocks in the district. The district is the chief in ore producing district of the state, apart from iron ore, minerals such as manganese, limestone, apatite, asbestos, chromite, and kyanite are also available here in plenty. Main corporate players in the mining sector are - SAIL, Usha Martin, Shah brothers, Tata Steel Limited, RML Ghatkuri, Anindita Traders and ACC, etc. operating in the district. The district comes in major zones based on raw material deposits and industrialization. It is part of Singhbhum industrial area (Jamshedpur and Adityapur) and Singhbhum, Kolhan division, with industries such as iron and steel, automobile and auto components, cement, uranium, information technology based, etc. Besides, there are also some industrial activities related to available forest products, horticultural, food processing, silk and textile.

Bokaro district is spread across 2,889 Sq Km, there are nine administrative blocks, two municipal areas/nagar parishads- Chas and Phusro, 635 villages, 249-gram panchayats, etc. Bokaro district's estimated

contribution to the state's coal production is around 10%. The mining-affected area is spread across urban and the rural areas. Considering this, six blocks in the district are regarded as mining-affected. The major mining-affected area is the predominantly urban Bermo (largest concentration of coal mines). Other areas affected through mining are urban and rural parts of Chandrapura, and Gomia and rural parts of Chandankiyari, Nawadih and Peterwar. Total accrual collection of Bokaro district in DMFT is 1974 Cr. Here DMFT has sanctioned projects on the basis of Priority and Other Priority sectors and Main District Mining Areas and Indirect Mining Areas [Priority Area- INR 698 Cr in 615 projects, Mining Areas- INR 320 Cr in 275 projects, Other Priority Area -INR 135 Cr in 116, Indirect Mining Area -INR 512 Cr in 456 projects].

5.5.1 DMF Processes and Performance in Jharkhand

The government had specified two issues in 2016, that DMF plans should focus on in all districts–clean drinking water supply and making villages open defecation free (ODF). All districts had been asked to plan for three times the estimated annual DMF collection, hence it had restricted the options for innovation in DMFT.

- The guideline came in February 2017, has drastically changed the systems of PMKKKY and DMF in the state of Jharkhand. Guidelines of Department of Cabinet Secretariat and Vigilance (11th March 2015) and Jharkhand Treasury Code, 2016 have overlapped the administrative controls of the DMFT.
- With the enactment of new guideline, DPR shall be submitted with PWD code with technical approval or sanctioned from line or technical departments, projects up to the cost of INR 1 Cr, can easily be approved with DMFT functioning of management and governing committee. However, if the project cost is INR 1Cr to INR 5Cr, then it will also be approved by the DMFT Chairman, who is Dy Commissioner or District Collector here, whereas technical department has to take all necessary approvals as it is mentioned in Guideline of Department of Cabinet Secretariat and Vigilance.
- After approval of project and financial sanctioned from DMFT, the Chief Engineer or officer in charge with similar stature has to deposit it in concerning treasury with PWD account code, and

thereafter work to be undertaken as per Jharkhand Treasury Code, 2016 guideline, however there shall be no charge of establishment expenditure of the technical department applicable here. If the project is more than INR 5 Cr, Cabinet Secretariat and Technical department guidelines to be fulfilled, the project sanctioned is possible only through State Level Committee's approval, whereas the Management Committee and Chairman DMFT will monitor the financial allotment and its expenditures. The line department or technical department will evaluate the project, do a physical examination, and provide completion certificate to the project.

- It has been perceived, that the DMFT provisions with new guidelines have minimize the delegation of power, decentralization and democratization of DMFT in the state, though in some districts, DMFTs have been established PMUs, however more bureaucratization has restricted to Civil Society and Elected Representatives to give their views and incorporate them in DMFT schemes and projects effectively.

5.5.2 Use of DMFs for Environment and Development

Enough works and projects are being done in DMFTs in Jharkhand as per the district portals and websites, they claim that they have done works in convergence of key schemes of line departments such as centralized purification systems, water treatment plants, permanent/temporary water distribution network including standalone facilities for drinking water, laying of piped water supply system. Effluent treatment plants, prevention of pollution of streams, lakes, ponds, ground water, and other water sources in the region, ensure controlling air and dust pollution. Creation of the health care infrastructure, provisions of necessary staffing, equipment and supplies, school buildings, additional class rooms facilities, laboratories, libraries, art and crafts room, toilet blocks and drinking water provisions and residential hostels for students/teachers in remote areas, collection; transportation & disposal of waste, cleaning of public places, provision of proper drainage & sewage treatment plant, provision for disposal of fecal sludge, provision of toilets and other related activities. Training and capacity development of staff, promoting skill development

center, self-employment schemes, support to SHGs and provision of forward and backward linkages for such self-employment economic activities. Special programmes for addressing problems of maternal and child health, malnutrition, infectious diseases, etc. However, there was a huge difference perceived in reality and rhetoric during the visits, it was really awful to segregate the work done under DMFT and the work mandate of the schemes.

6. Using the DMFs for Environment and Development

The Earth's crust is rich in inorganic materials which include ores that are used on a large scale to yield metals and non-metals and essential for industrial, technological, and economic growth of the nation. The core of DMFT is a benefit-sharing concept of these mineral and mineral resources for the people affected through mining activities, but they never get the benefits of economic growth by courtesy of mineral resources and faced a huge inequality in income and ownership of natural resources. It is completely different programmes from other government schemes, as a benefit-sharing programme- pool the resources from nature, use them to their optimum level for the mutual benefit of all the participating members and institutions and mainly the project affected families are losing something in the process of mining and resettlement.

In the last five years of PMKKKY and DMFs implementation, States have carved out their own guidelines as per their local needs, these guidelines varying from state to state but somehow, they are allied with the broader framework provided by the Union ministry of mines for administrative arrangements for DMFs. State level committees are also established in the states, where the role of Chief Minister, Mining Minister, Chief Secretary, Finance Secretary and Secretary Mining is significant in state level major decisions on DMFT funds. Since the fund is big in major districts, state secretariats try to control DMFT and its funding mechanism in various sectors as mentioned in PMKKKY. Control of the state secretariats on DMF funds is causing problems in District Mineral Foundations' functioning in innovations and convergence with other schemes.

The Parliament of India has passed the Mines and Minerals (Development and Regulation) Amendment Bill, 2021 in the month of March 2021, according to this bill certain provisions are also done for DMFT- "Provided that the Central Government may give directions regarding composition and utilization of fund by the District Mineral Foundation". This is again a step towards a centralization approach in DMFT. Nonetheless, it is also important to know that the district has its own economic capacity and limitation to do expenditure in development funding, which varies in a range from INR 200 Cr- 400 Cr, depending upon needs, geographical areas and other resources available in the district.

6.1 Improving the Processes and Performance of DMFs

Some districts have their DMFT financial inflow more than overall expenditure capacity of them, hence, merging nearby districts in

main district with an approach of area development such as Govt of Chhattisgarh is doing, or provision of State Mineral Fund (Madhya Pradesh and Rajasthan) would be suitable for states in utilization of DMFT in equitably and properly. The prospects of DMF are being shadowed by some crucial administrative and investment issues. There is a need to address and rectify these at the earliest, as these are determining factors for the success of DMFs. If this is not done, DMFs might earn some quick returns for special interest groups or an instrument to fulfill a wish list of district administration or elected representatives, but will fail as an institution that has been brought in for the mining-affected people.

- Mining related operations largely affect less developed and remote areas of the state, and vulnerable sections of the population, especially Scheduled Tribes. It is necessary that special care and attention is to be devoted, in an organized and structured manner, so as to ensure that these areas and affected persons are benefited by the mineral wealth in their regions and are empowered to improve their standard of living.
- District Mineral Foundation (DMF) is a trust set up as a non-profit body, in those districts affected by the mining works, to work for the interest and benefit of persons and areas affected by mining-related operations. DMF is an institution for benefit sharing programme, and it's completely different from normal government schemes. Through DMF, PMKKKY planning should be bottomed up. Initiatives of DMF cannot be a stand-alone programme; it is in convergence with all other programmes. The problems of mining areas across the nation are almost similar in nature but their solutions are localized. For improving the scope of intervention, DMF plans/investments may consider convergence and integration with other plans and programmes of the Centre and state governments. However, such convergence should happen only for the priority issues as determined through the gap analysis and participatory exercise, and also considering the deficit in district/state budget to address them.
- It is observed that this fund has become just another source of fund for Collector to take up developmental activities in the district. The entire amount is being spent through line departments as per their administrative and financial mechanisms. It has little scope

to innovate and experiment new ways of program planning and management. The constitution of DMFT was the mandate to compensate environmental damage due to mining and recovering environmental loss arises from mining and allied activities and to reduce disparity of developmental of local people. Minerals are the finite resources; therefore, funds received from their royalty are also not for forever. Realizing this fact, it is important to use the fund wisely with long-term vision for the long-lasting development of mining areas. Over-burdened district officials and public pressure on elected representatives for popular projects may not be in a position to take decisions on investing the DMFT fund systematically, as per the mandate.

- Some key roles of the Governing Council include laying down the broad policy framework for the functioning of the Trust, reviewing activities, participating in annual planning, approving annual plans and budgets, conducting audits of schemes and works, reviewing annual reports and accounts, ratifying appointments of officers and auditors, etc. Managing Committee in ensuring timely collection and administration of funds, coordinating and participating in annual planning, monitoring progress of works, preparing and presenting annual reports including accounts and audit reports. These activities can be more professionally managed if state and district level Project Management Units (PMUs), if they have been established, no matter if it is managed by an outsource agency or established by the concerned department of the state.

- Though the composition of DMF bodies is state specific, in all states they are predominantly bureaucratic. The Governing Council primarily comprises various line department officials and officials holding other significant positions in the district, such as the superintendent of police, the additional district magistrate, the chief executive officer of the Zila Panchayat, etc., as the case may be. There is also representation of elected public representatives, including selected Panchayati Raj Institution (PRI) members and industry representatives related to mining. The Managing Committee comprises entirely of officials, many of whom are also members of the Governing Council. There is a need to visualize mining areas problems with some knowledge-based institutions or projects, may be in a project mode or a regular support to

DMFT at state and district level by synchronizing professionals at state and district level PMUs. At district level, Resource Agencies Network (RAN) or alliance, including various line departments to be promoted for better coordination among all stakeholders and planning coordination in major line departments associated with the theme of DMF programmes.

- At any point of time, DMF fund should not be treated as a kitty fund and majorly to be used for soft activities rather than infrastructure development or filling gaps in the infrastructure shortage of other schemes. However, in Odisha where the fund is comparatively huge (about 26% of nationwide collection), state is focusing utilization of this fund in major infrastructure projects through Public Sector Units (PSUs), is need to revisit again in their context as state has a paucity of infrastructure in mining areas; nonetheless, this fund to be utilized for development of project affected families, though infrastructure is needed but it cannot be given priority on human and environment development as both are badly affected by mining activities and infrastructure projects will again perpetuate it.

- Comprehensive audit mechanisms for DMFs- financial performance and social audit should be put in place. DMF being a public Trust and operating in line with the PMKKKY- a scheme for public (mining-affected people) benefit, should undergo both financial and performance audit. The financial audit provides assurance that the financial statements properly present the financial situation. Performance audit on the other hand is an assessment of the extent to which an organization, programme or scheme operates economically, efficiently and effectively. Chhattisgarh has shifted all audit procedures under CAG, whereas in Jharkhand the guidelines of Department of Cabinet Secretariat and Vigilance as well as Jharkhand Treasury Code are applicable. These procedures have their own strengths and weaknesses, but overall it should not be overlapped; the administrative controls of the DMFT and monitoring procedures should not hinder the democratization of DMFTs at large. Provisions for social audit involving concerned stakeholders, particularly from mining-affected areas, should be facilitated in DMFs effectively. Social audits provide an opportunity to the ultimate users or beneficiaries

to scrutinize development initiatives. It also examines performance of an institution or a programme against its stated objectives, in the context of community values and the distribution of benefits among beneficiaries of various social groups.

6. 2 Using the DMF for Environment and Development

Due to bureaucratic nature of DMFT, the people participation mainly from mining affected families is very less, the power given to gram sabhas can only be exercised effectively if they also have a representation in the decision-making process of the governing council and their views have been given importance. However, such proactive representation is missing in DMF Trusts. This also reflects a discord between the law, and the mechanism that has been put in place to implement it. Betul DMFT has done experiments to scale up digital participation through mobile app for getting suggestions and incorporating them in the planning process, and these kinds of digital participation processes can be promoted in more DMFTs after examining the results.

- Indicators of success of DMF's programmes should be based on district-specific- micro indicators are needed for success of DMF programmes. Proactive involvement of government functionaries, elected representatives, business entities involved in mineral extractions, community and community-based organisations, civil society- domain experts, media and academic institutions are inevitable for the success of DMF activities and functioning. Primary stakeholders like tribal communities should actively take part in the planning process. DMF has to ensure to engage them through the consultative process rather than advise them to opt western model or economic model of development, also enough space to be given for indigenous knowledge promotion.

- A knowledge platform to facilitate planning, implementation, monitoring and evaluation of programs for environmental regeneration and sustainable development in mining areas is needed within DMF establishment, this can be state level wing under State Level committee or some regions as per Area Development Approach. Mainly to undertake applied research, knowledge building, policy facilitation, and catalyse collaborative action at the state and district level for innovative and effective

use of DMF funds for the development in mining areas. showcase successful examples to other states, as well learn from others' successes. This platform to be used for building capacity at State PMU and the district PMU, also among elected people representatives and PRIs, officials of the line departments, and civil society and corporate organisations to develop and strategies a long-term planning and action for utilization of DMF funds. Under this larger umbrella elected representatives of PRIs, officials from government departments, experts from knowledge Institutions, corporate sector and civil Society can meet and discuss a common action plan for the betterment of the districts and state with the shared resources and convergence of various schemes.

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