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Local Government and Decentralized Natural Resource Management

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LOCAL GOVERNMENT AND DECENTRALIZED NATURAL RESOURCE MANAGEMENT

Mahima Upadhyay*

Abstract

The interaction processes of natural resource degradation - climate change - persistent poverty and unsustainable development are more pronounced in poorer countries like India where a majority of the population is dependent on natural resources. Agriculture underpins Indian livelihoods, with land-water-forest resources determining productivity and sustainability to a great extent. In the past few decades, a sharp decrease in the quality of these resources is witnessed. Decentralization is being practiced globally as a potential institutional innovation for solving resource management issues involving community, line departments, NGOs and local governments at local level; yet, the community appears at the forefront in the field and in literature; local governments' potential is not explored much despite its statutory status as a local body for managing local affairs including natural resource management (NRM). Based on secondary data sources, this paper attempts to explore this role. Theoretical discourses, policy practices and ground evidences are referred for the exploration where the state of Madhya Pradesh, India, is taken as a case to discuss policy practices and ground evidences. The paper suggests that amid a polycentric decentralized structure, many NRM functions are devolved to local governments. However, the devolution is marked by some in-built flaws and local governments also do not seem to play their part to an optimum level.

Background

Resource degradation and depletion, that have reached to alarming levels, are serious challenges particularly for the resource dependent developing world where natural resources characterise the livelihood majorly and export earnings emanate mainly from primary products[1]. However, resource-based development strategies adopted in such countries often lead to economy-wide exploitation of natural resources, leading to insufficient reinvestment in other sectors of the economy and hence to unsustainable growth and development. This creates a vicious cycle where resource exploitation does little to increase the rural income and does not result in much efficiency gains and additional benefits for the economy as a whole (Barbier, 2005).

Agriculture-based activities provide a livelihood to a vast majority of Indians. Consequently, land-water-forest resources are critical as they determine productivity and sustainability to a great extent. In the past few decades, the quality of these resources in India has sharply decreased, being manifested in degraded land, reduced land-productivity, declining water tables, salinization and pollution of water sources and weather extremes (Mid-term Evaluation, 11th Five Year Plan). In the wake of growing demographic pressure, greater competition for such resources and a changing climate, this becomes an urgent issue to address.

Several studies see natural resource degradation as concomitant to institutional failure and call for efficient and effective institutions to fix the problem (Acheson, 2006, Agrawal and Yadama, 1997, Andersson, 2006, Barrett, Lee and Mcpeak, 2005, Barbier, 2005, Heltberg, 2001, Kant and Berry, 2001). Though there is no agreement on the best institutional arrangement, with private property, government control and local community management institutions all with their advocates and critiques,

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decentralization is hailed, particularly in the last two decades, for providing better institutional structure for natural resource management (NRM). Many countries including India have adopted a decentralized policy framework for the efficient management of their natural resources. However, discussions on such policies-practices are marked by a focus on user groups and absence of much deliberation on local governments at the forefront. This paper seeks to address this gap.

The main objective of the paper is to discuss the standing of local governments in Decentralised Natural Resource Management (DNRM). Discussion is structured around two points – 1) Theoretical discourse around DNRM and its local authority alternatives; 2) Practice of DNRM - the roles assigned to local governments through legal institutions; and ground evidences of - to what extent local governments have been able to take up the assigned roles. Empirical discussions on the practice of DNRM and the ground evidences are rooted in Indian experiences, where the state of Madhya Pradesh is taken as an illustrative case. Given the importance of agriculture for Indian livelihood and land-water-forest being vital inputs, the paper focuses mainly on these resources.

The paper is based on secondary source review. The overall institutional framework – relevant central-state Acts and scheme documents for DNRM - is discussed to understand the roles-responsibilities entrusted to local governments vis-a-vis other agencies; ground evidences are built on the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) work status primarily. NRM, being a wide area, encompasses several related activities towards the management, conservation and regeneration of resources, the paper appraises local governments' role by looking at those activities majorly that have actually been devolved through the legal institutions. Although significant, any discussion on the suggestive gamut of such activities is out of the limited framework of the paper.

Issues in the Decnetralisation of Natural Resource Management

The celebrated work of Hardin, the Tragedy of Commons (1968) favoured the single-handed authority of the central government on natural resources by putting forth the idea that individuals following their self-interest in their rational behaviour will ultimately lead to resource depletion. However, Ostrom (1990) demonstrated that the tragedy of commons can be solved through the intervention of locals who may offer better solutions to the commons problem. Parallel to this academic discourse, national governments often captured ownership-authority to manage natural resources during 1970-1980s whereas the past few decades are characterized by an effort to decentralize the NRM.

Efficiency, equity, accountability, participation and environmental sustainability are theoretical arguments for DNRM. There is widespread consensus that decentralization has a comparative advantage with regard to NRM, particularly due to local knowledge (Andersson and Gibson 2007, Larson, 2002, Larson and Ribot, 2004, Andersson and Ostrom, 2008). Andersson and Ostrom (2008) have emphasized and summarized the important role of local knowledge. Local knowledge leads to the creation of better adapted rules for local commons which limit resource access, encouraging participation of the trustworthy and exclusion of others. This results in building up mutual trust and positive reciprocity and also in cost-reduction for resource monitoring. Disaggregated knowledge and direct instant feedback about the resource system's response to harvesting further enhances the utility of decentralization (Andersson and Ostrom, 2008, pp 75). Hence, better information about local

conditions and preferences leads to better decisions regarding the collective goods provision (Andersson and Gibson, 2007, pp 99) and better targeted policies and a reduced information-transaction cost (Larson and Ribot, 2004, pp 2-3). Decentralization also leads to more efficient resource allocation. Local people acquainted with local surroundings are more likely to identify and prioritize accurately their environmental problems (Larson, 2002). Decentralization promotes efficiency, equity and inclusion by making public decisions more open, closer and accountable to local populations (Larson and Ribot, 2004). Accountability is increased (Larson 2002, Oyono, 2004, Meynen and Doornbos, 2004, Singh, 2014) through proximity of decision-making authority to the local populace (Andersson and Gibson, 2007).

Another advantage lies in developing an ownership sense in resource users by participation in decision making regarding resource access-exploitation, helping in sustainable resource-management (Larson and Ribot, 2004, Larson, 2002). Open decision-making could also help marginalized groups to have greater influence on local policies, and hence increases the promise of equity (Larson and Ribot, 2004, Larson, 2002). Other advantages include reduction in the possibility of failure throughout a large region by establishing a parallel rule-making system locally (Andersson and Ostrom, 2008, pp 75); providing more favourable conditions for the development of formal-informal webs of relations needed to address resource issues which are easier to get developed over reduced distances (Larson, 2002, pp 3). However, disadvantages such as possibility of elite capture; structural variations in community resulting in inequitable resource access and usage, thereby hindering its collective action; and lack of technical knowledge and expertise are equally associated with DNRM; nonetheless, potential advantages outnumber these limitations.

The rationale for adopting DNRM in many countries may in fact vary considerably from theoretical arguments. Empirical studies suggest that many countries have adopted decentralization under international donors' pressure or in response to national crisis (Resosudarmo, 2004, Oyono 2004), as a way of reducing cost or increasing revenue (Colfer, 2005 as cited by Larson and Soto, 2008) or sometimes to exert and maintain control over the community (Becker 2001, Sarin *et al*, 2003 as cited by Larson and Soto, 2008). Hence, the practice of DNRM may actually be far from the goals of pursuing democratic ideals in reality sometimes.

It is, however, suggested that the practice of DNRM, with theory-driven goals or with other practical motives whatsoever, has produced mixed outcomes only. Based on five case studies in Nepal, Kenya and North America, community based natural resource management (CBNRM) has rarely resulted in empowerment, equitable power distribution and economic benefits, protection of biodiversity and sustainable resource use (Kellert, Mehta, Ebbin, Litchtenfeld, 2000). In an analysis of 30 municipalities in Bolivia, local institutional performance was found to affect unauthorized deforestation, but not permitted or total deforestation (Andersson and Gibson, 2007). The outcomes of decentralization concluded in a number of studies as summarized by Ribot, 2002 indicate sustainable forest management in Kumaon, India; protection of forests against commercial activities in Bolivia and Nicaragua; greater inclusion of marginalized in forest related decisions in Nicaragua, Cameroon and Zimbabwe; increased local revenues in India, Zimbabwe, Nicaragua, Indonesia, Bolivia and Cameroon;

overexploitation of timber in Cameroon, Nicaragua and Uganda; and elite capture in India, Indonesia, Bolivia, Brazil, Cameroon, Mali, Nicaragua and Mexico.

It is to be noted that these outcomes, positive or negative, may be preliminary only, as decentralization reforms have not been implemented in their complete form; availability of before-after decentralization data is limited and it is challenging to single out decentralization's effect only, in the relevant biophysical and policy contexts (Ribot 2002, pp 8). Ostrom (2005) indicates the probability of totally different and sometimes contrasting outcomes due to the contextual bio-physical environment and its interplay with the devised institutional mechanism. The types of goods may create distinct action situations in a shared institutional backdrop. The physical possibility of potential action, its linkages to the outcomes and the available information sets affecting the final outcomes are influenced by the bio-physical world acted upon (Ostrom, 2005). Further, the positive or negative externalities created in the process of resource management indicate the issues in defining and assessing the success or failure of decentralized institutions. The criteria for success – the material gains to the local community, the fair and equitable processes, the sustainability of resource base or the wider social benefits reaching out to the larger community - determine if particular efforts are perceived as successful. Decentralized watershed management, for example, may appear a success if the private benefits of managers are taken into consideration but a failure, on checking the negative social costs generated for the larger community, in an effort at a shrinking of the resource base with concern towards equalizing the marginal benefits to the marginal costs (Venkatachalam, 2011), may have been coexistent. Local management decisions with a concern to global environment and climate change may reverse the phenomenon where the local actions could be perceived less profitable (at least for a short term) to the local community while ensuring the benefits to the larger community. However, several local actions may generate local-global benefits; investments made by households, as part of larger community power networks, in solar power for the household energy needs and contributing to a larger power network when not in use, can reduce the total energy costs for any local community along with reducing the GHG emissions overall; pollution control efforts in any metropolitan area may also bring the local-global benefits at par (Ostrom, 2010), hence enlarging the success domain of DNRM efforts. Further, project-based implementation of CBNRM may not present real situation; the success of these initiatives many a times results from intense donor intervention and outcomes may greatly vary under more generalized decentralization (Baviskar, 2002).

To put DNRM into practice, a critical reflection on legitimate local authority is crucial. To whom should natural resources be decentralized? This question is discussed with two options basically – one, community or the user groups who have regular resource interaction for their livelihood; or, two, the local governments that represent the community at large[2]. Choosing the alternative equates to choosing decentralization's form as the former is sometimes considered deconcetration only while later it is regarded as devolution (Baumann *et al*, 2003). Both the choices, however, are not free from theoretical potentials-apprehensions and their empirical evidences. Whereas user groups are advocated for direct targeting and involvement of poor natural resource users, widening the leadership base involving more people in decision-making process and creating a social capital, advocacy of local governments takes recourse in its statutory mandate[3], its potential to generate revenue through local taxes, its potential

capability to scale-up[4] successful initiatives by its vertical integration with higher levels of government, its constitutional liability for including the marginalized in decision-making (Baumann *et al*, 2003, pp 2) and its accountability to local people. Further, user groups could be more targeted towards resource management, this being their single objective whereas local governments may appear as a more sustainable choice. Major apprehensions about user groups are concerned with power-relations – between government and user groups as well as within the community itself that may hinder inclusive democratic decision-making regarding resource management. Contrary to the community decentralization spirit that favours all resource users' equal involvement in management decisions-implementation, influential people often control these, sometimes even going against rules (Shreshtha and Ojha, 2017, pp 22). Moreover, the concept of collective action and structural variations in the community do not go together in reality. Collective resource-management conceptualizes the community as a small compact unit with common norms-values, but in reality, the community or user group members may be differentiated on many aspects of their socio-economic life and may actually have highly conflicting values and outlook. This may result in inequitable and unsustainable management practices (Shreshtha and Ojha, 2017, pp 22, Marothia, 2010, pp 4, Leach *et al*, 1999). However, user group advocates argue that such differences can be addressed by fostering regular interactions and rule-making through deliberation among such group members. Local governments are theoretically free from vertical power-imbalances in terms of being independent from higher levels of government. However, power dynamics cannot be denied horizontally - at local level - where structural community differentiation can affect equal participation in decision-making. Further, lack of technical knowledge diminishes local governments' credibility. Being political bodies, local governments are argued to lack the technical-professional skills needed for effective resource management (Marothia, 2010, pp 22). Though community/user groups cannot be exempted from such doubts, they do claim the added advantage of local traditional knowledge in resource management. Empirical evidences also suggest positive-negative outcomes for both the alternatives. To mention a few, community-based/user group initiatives have helped to sustainably manage forests in Kumaon, India (Agrawal, 2001); has resulted in empowering the participating tribes in fisheries management, in an effective blend of traditional-scientific knowledge and finally biodiversity protection in North America (Kellert *et al*, 2000); has enhanced marginalized and women's participation in South Africa and Botswana (Shackleton *et al*, 2002); has increased social sustainability in Botswana (Kgathi and Ngvenya, 2005); has weakened community leadership and participation in Uttarakhand, India; has led to elite capture and limited women's access to resources in Orissa, India (Shackleton *et al*, 2002); has marginalized women's interests in joint forest management (JFM), India (Sarin, 1995); and has not been successful in addressing social differentiation resulting in diverse farming and non-timber collection practices adopted by different classes – landowners and tenants, affecting forest quality negatively in Ghana (Leach *et al*, 1999). Similarly experiences with local governments are mixed. In Bolivia and Nicaragua, people's voices in keeping commercial interests out are acknowledged by some local councils whereas others have not been able to do so (Larson, 2002, Pacheco, 2002 as mentioned in Ribot,2002); in Indonesia, local governments have not been able to stop illegal logging (Resosudarmo, 2004); marginalized have been increasingly included in forest management in Nicaragua, Cameroon and Zimbabwe (Ribot, 2002,

pp 9); in Cameroon, Uganda and Indonesia transferring exploitation rights to local bodies has resulted in overexploitation of timber (Ribot, 2002) elite capture is witnessed in Brazil, India, Bolivia, Cameroon, Nicaragua, Mali, Mexico, Uganda and Zimbabwe (Ribot, 2002, pp 10).

The success-failures of both the actors indicate that the community as well as the local government are the potential actors in the realm of DNRM and both may fail as well. Hence the choice should not be biased with a glorified view of either of the actors. The theories of market failure and government failure explain how the pursuit of rational behaviour may lead to inefficient resource management and inequitable resource allocation in privatized resource regimes regulated by free-market principals and how the government interventions to make up on these result in sub-optimal outcomes at times. The literature offers an extensive list of contributory factors where market failure could be engendered by externalities (Andrew, 2008), imperfect information (Winston, 2006, Andrew, 2008) or incomplete property rights (Acheson, 2006); the principal-agent problem (Acheson, 2006), information asymmetry (Acheson, 2006, Andrew, 2008), weak incentives for the government in terms of lack of profit-maximizing goals (Andrew, 2008) and the conflicting social-economic goals of the government (Andrew, 2008) result in government failure in resource management. Such theories may legitimately turn the discussion to self-governing community regimes as an alternative. However, the communities also fail. As discussed above, the communities are not always a homogenous, cooperative or equitable unit regarding their endowments and prevailing resource distribution, self-governing or the co-management regimes may result in entrenchment of such inequities (Davis and Bailey as mentioned in McCay and Jentoft, 1998). McCay and Jentoft, 1998 indicate that market failure and government failure may actually be the 'community failure' where the market and the government subtly initiate the process of dis-embeddedness in a community and deplete it by eroding the norms of mutual trust and reciprocity, accounting for the development of self-governing regimes. The markets penetrate the social relations by making them utilitarian where the social interaction becomes tactical; the bureaucratic intervention may shift the social relations from horizontal to vertical levels, where the community members lose local ties with the fellow members for their common responsibilities towards their 'commons' and enter into competitive or positional relationships. Thus both – the state and the markets – negatively impact the conducive conditions for social action and weaken the prevailing social solidarity, trust and equality. The deprived communities bring in 'the tragedy'. However, these tragedies are to be attributed to 'community failure' instead of referring to the government or market failure merely (McCay and Jentoft, 1998). Apart from the structural constraints, the community may face capacity constraints as well. The cognitive limitations of community members may lead to inefficient decision-making regarding resource management. However, the structural characteristics of a particular community impacts the cognition as well where the cultural norms, values and dispositions determine the behavioural practices. A market-oriented society may inculcate different cognitive dispositions (Henrich *et al*, 2005); rational behaviour may itself be rooted in a social context rather than in a desire to maximize the utilities for example (McCay and Jentoft, 1998). The culture affects how the human brain itself evolves (Richerson and Byod, 2002 as mentioned in Ostrom, 2005). Hence "it is an error to suppose that an individual calculus can explain a commons system, rather one has to understand the socially and politically embedded commons to explain individual calculus" (Peters, 1987 as mentioned in

McCay and Jentoft, 1998). The concept of community failure gets even more complicated if we consider the concept of community and the practice of CBNRM. The 'community' is taken as a spatial unit in most of CBNRM projects where the presence of internal solidarity or common norms and values is not always considered. This indicates the issues related to defining a community. The studies highlighting success/ failure don't indicate the customary community-based management only but also refer to the co-management practices where government shares or many a times controls management decisions and practices. In such an institutional environment, it becomes challenging to determine who is actually failing. Given these failures of the market, government and community, the concept of pluralism and polycentricity has also developed in the DNRM arena that provides for multiple actors and multiple scales of authority to neutralize the adverse impacts of over-reliance on any single actor. Further, innovative institutional experiments like payment for ecosystem services are also underway that bring the individuals/community, the government, NGOs and market-based industries together for the management of natural resources.

The discussion on the rationale and legitimate actors for DNRM emphasizes the much cited need to recognize the futility of panacea institutional choices and to understand the importance of the contextual environment. Awareness on the roles of social-political-economic-cultural and bio-physical forces in shaping the decision-making environment in the resource management arena is crucial to come up with a more promising choice for a particular society while acknowledging the adopted regime and chosen actor as an experiment that may or may not result in anticipated outcomes. Fewer experiments with local governments in DNRM indicate a vision that glorifies the community as a potential choice in spite of its perceived failures.

Role of Local Government in DNRM: Indian Experiences

In line with the above discussion, experiments with local governments in India are not analyzed as extensively as the CBNRM initiatives. Nonetheless, existing empirical studies focusing on local governments confirm the global trends only in producing mixed outcomes, for example, village-level institutions rather than local governments that have worked for resource-management in Ralegaon Siddhi, Maharashtra; in Madhya Pradesh, local governments could not efficiently manage small irrigation tanks despite ownership rights being transferred by the department of Agriculture; in Chattisgarh, these tanks are efficiently managed by local governments; again in Chattisgarh, local governments are making collective efforts for coordination among various stakeholders regarding inland fisheries management (Marothia, 2010); in Hiware Bazar, Maharashtra, local government has successfully utilized government schemes for efficient NRM (Singh, 2013); in Karnataka, local governments' involvement with NRM works under MGNREGS has been limited (Rajasekhar, Berg and Manjula, 2012);and in Andhra Pradesh, any mutual linkages between local governments-other local actors for NRM are not established (Sivanna and Reddy, 2007, pp 43). As a theoretical discussion emphasizes the importance of context, performance of local governments also needs to be contextualized. It is to be noted that actions of local governments, as a statutory body, are closely linked to the legal statues defining the ambit of their engagement. Hence, while acknowledging the role of other structures in the backdrop, the legal institutional structure

can be taken as a foundation to build up our understanding of the role of local governments in DNRM in the country.

The instances of local efforts to manage and protect natural resources in India can be traced in history at several occasions by several actors – in the community's collective action for protecting their resources and environment, in the grassroots movements of civil society organizations or in the management and regulation of resources as a livelihood option by traditional Panchayats. The extant legal institutional framework for DNRM in India mirrors these historical developments. A pluralistic polycentric structure characterizes the DNRM institutions in India, where the local government, other specified agencies and at places, the community, are devolved the powers to manage natural resources locally and the exercise of local authority has horizontal-vertical linkages. Apart from legal institutional establishments, informal (not rooted in legal institutional structure) efforts by community or some other agencies are also existing. However, local governments, as a formal entity, enter the arena through the institutional codes[5], trying to establish a system of local governance for local matters including the management of natural resources.

The Constitution of India, originally, did not offer much scope for local governments' intervention in NRM. The establishment of local governments was a mere directive and not a mandate to the states. The legislative powers over natural resources was conferred to union and state governments (Constitution of India, Article 246, 248, 254); Land and inland water resources were the state's jurisdiction and Parliament had legislative powers on inter-state water issues if requested by states, forests appeared on the concurrent list empowering both union-state governments to legislate, with union laws having an overriding effect in case of inconsistency with a state law. Though these legislative powers are still the union-state prerogatives, the 73rd Amendment to the Constitution in 1992 formally established the local governments in terms of offering a constitutional status to local governments, where these are no longer a directive to opt for, rather these are the constitutional mandate to be followed. The system of Panchayati Raj (local government) envisaged in the Act does not target DNRM *per se*, rather it represents overall devolution. Nonetheless, the Eleventh Schedule, added by the Amendment enlisting the 29 areas devolved to Panchayats, does include certain NRM functions. These particularly include:

- Land improvement, land consolidation and soil conservation (Entry 2)
- Minor irrigation, water management and watershed development (Entry 3)
- Social forestry and farm forestry (Entry 6)
- Minor forest produce (Entry 7)
- Drinking water (Entry 11)
- Maintenance of community assets (Entry 29)

This devolution, however, does not transfer the functions or property rights over these resources to Panchayats automatically. It requires the state's intervention to bring in appropriate legislation conforming with the above general principles (Article 243G, Article 243H). The flexibility has led to the maintenance of states' ultimate authority over resources, even high devolution ranking states

at devolution index have not devolved control over natural resources to Panchayats (Marothia, 2010, pp 21).

The Case of Madhya Pradesh

Given the flexible approach adopted in the Constitution, it was required to consider the status of devolution in the states; a functioning local governance set-up, in terms of devolution of certain funds, functions and functionaries to local governments, was primary to look into the roles provided to the local governments. Madhya Pradesh appears as a mid-scoring state[6] on the devolution index[7] and offers some scope regarding this. It will be worthwhile to consider here that the practice of DNRM in the state goes beyond the local government's purview. As stated above, the overall institutional framework for DNRM in the state also establishes a pluralist polycentric system involving multiple other actors as well; the formal institutional set-up[8] for DNRM in a state can be put into three broad categories:

- Legal enactments corresponding to the system of Panchayati Raj
- Legal enactments explaining legal arrangements regarding NRM[9]
- Central and state schemes providing rules/guidelines for NRM

The data sources in each category include the purposively selected Acts and schemes that offer a description of institutional arrangements regarding the management of natural resources. Given the focus of the study on land-forest-water resources, only related Acts and schemes are referred. The list of referred Acts/schemes in each category includes:

- Legal enactments corresponding to the system of Panchayati Raj
    1. Madhya Pradesh Panchayati Raj Avam Gram Swaraj Act, 1993
- Legal enactments explaining legal arrangements regarding NRM
    1. Madhya Pradesh Land Revenue Code, 1959
    2. Indian Forests Act, 1927
    3. Forest Conservation Act, 1980
    4. Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006
    5. Madhya Pradesh Lok Vaniki Act, 2001
    6. Madhya Pradesh Irrigation Act, 1931
    7. Madhya Pradesh Farmers Participation in Irrigation Management Act, 1999
    8. Mahatma Gandhi National Rural Employment Guarantee Act, 2005
- Central-state schemes providing rules/guidelines for NRM
    1. Madhya Pradesh Gramin Rozgar Guarantee Yojna, 2005
    2. Pradhan Mantri Krishi SichaiYojna

The Acts may also be taken as representative Acts in the state as far as the management of natural resources is concerned.

Legal enactments corresponding to the system of Panchayati Raj

Local governments as traditional informal Panchayats have been in existence in the state since long. Over the years, a law-driven formal system for local-self-governance was intended to be institutionalized corresponding to central deliberations. Following constitutional guidelines of the 73rd Amendment Act, ***Madhya Pradesh Panchayati Raj Act, 1993*** was enacted, establishing a three-tier structure of Panchayats at district, block and village level as Zilla Panchayat (ZP), Janpad Panchayat (JP) and Gram Panchayat (GP) respectively. The Act got amended several times, the major amendment coming in 2001 that changed the name of the Act as ***Madhya Pradesh Panchayati Raj Avam Gram Swaraj Act, 1993***. At present, the Act governs the system of Panchayati Raj in the state except tribal areas which are governed by PESA.

Madhya Pradesh Panchayati Raj Avam Gram Swaraj Act, 1993 and DNRM

Though local governments have got representation in a few of the sectoral guidelines and institutional arrangements regarding specific resources, the Act offers an opportunity to mainstream DNRM in local governance. Although the Act does not speak about resource management per se, provisions related to particular resources and corresponding responsibilities can be identified in the Act.

As the Act establishes a three-tier system for local governance at village, block and district levels, the ***devolution of functions*** extends to all three levels. The Act makes Gram Panchayats (GP) responsible for land-water-forest management in general, on the gram sabha's recommendation (Section 7 (3)); Janpad Panchayat (JP) is made responsible for social forestry (Section 50 (1-a)) and Zilla Panchayat (ZP) advises the state government on social forestry (Section 52 (1-xii)). Agriculture, that should include land-water management activities by default, is transferred to JP (Section 50 (1-a)). Further GPs are given regulatory powers for water use and environment subject to fiscal threshold (Section 54 (iv), (vii)). Hence NRM functions are devolved to Panchayats at all three levels with the general principle of higher tier coordinating, guiding and consolidating a lower tier's work.

After the amendment in the basic Act in 2001, Gram Sabhas are given important responsibilities regarding NRM. Section 7 of the Act specifically mentions that subject to rules, which the government may make in this behalf, and subject to general or special order, as may be issued by state government from time to time, Gram Sabha shall have powers and functions namely–

- To manage natural resources including land-water-forests within a village area in accordance with constitutional and legal provisions in force (Section 7 (1-j-II));
- To advise the GP in the regulation and use of minor water bodies (Section 7 (1-j-III));
- Construction, repair and maintenance of public wells, ponds and tanks and supply of water for domestic use (Section 7 (1-l));
- Filling in disused wells, unsanitary ponds, pools, ditches and pits and conversion of step wells into sanitary wells (Section 7 (1-p));
- To plan, own and manage minor water bodies up to a specified water area situated within its territorial jurisdiction (Section 7 (1-ss));
- To lease out minor water bodies up to a specified area for fishing and commercial purposes (Section 7 (1-tt));
- Management of public land (Section 7 (1-u));

- To regulate use of rivers, streams and minor water bodies for irrigation purposes (Section 7 (1-uu));
- Maintenance of grazing and other lands vesting in or under Gram Sabha's control (Section 7 (1-aa));
- Plantation and preservation of village forest (Section 7 (1-ii))

However, this section should be read with section 7 (3) that reads – the GP shall carry out recommendations, if any, made by Gram Sabha in regard to matters before it under this section. This makes it clear that the Gram Sabha is general body and GP is the executive body that is supposed to actually carry out above functions on Gram Sabha's recommendations.

An important feature of this functional devolution is state's power to add to and to withdraw any of devolved functions if the state government is undertaking any of functions entrusted to Panchayats and Panchayats can perform such functions only if these are re-entrusted by the state government (Section 53 (2)).

The Act does not designate any specific functionaries to discharge the above NRM functions at any of Panchayat level. However, it mentions that Panchayats at appropriate level shall be entrusted such staff as may be necessary to enable them to function as an institution of self-government in relation to matters listed in Schedule IV, including preparation of plans, implementation of schemes for economic development and social justice and other duties and functions assigned to them under sections 7, 49, 50 and 52. (Section 53 (1-a)). Schedule IV enumerates all the matters enlisted in Schedule XI of the Constitution of India, as discussed above, including agriculture; land improvement and soil conservation; minor irrigation, water management and watershed development, social forestry and farm forestry and minor forest produce. All Panchayats, with the prior approval of prescribed authority, may appoint such officers and servants as it considers necessary for the efficient discharge of its duties (Section 70 (1)). Further, Panchayats at appropriate level may be endowed with powers and responsibilities for selection, recruitment, appointment and management of any cadre or cadres of employees required for the efficient implementation of schemes subject to the staffing pattern approved by the state government and such other conditions as the state government may deem fit (Section 53 (1-b)).

Similarly, there is no provision for tied ***fund*** specifically for NRM purposes, but there is provision for budget for Panchayats to discharge their functions in general that includes the above specific functions as well (Section 53 (1)).

Legal enactments explaining legal arrangements regarding NRM

Apart from the above principal Act, certain central-state enactments applicable to Madhya Pradesh also mention about the management, upkeep and conservation of land-water-forest resources.

To begin with, major enactments in the state regarding forest management, ***Indian Forest Act, 1927***, applicable to all states, provide for governance-management of forest resources. The Act was basically meant to consolidate the laws relating to forests, the transit of forest produce and the duty leviable on timber and other forest produce. The Act vests controlling powers over all important

forest related matters including their management in the state. The only possibility of a decentralized management system under the Act is constitution of 'village forests' (section 28). This allows the state to assign any village community the rights of government to or over any land which has been constituted as a reserved forest (Section 28 (1)). However, the state is authorized for rule-making regarding management-regulation of such village forests, prescribing conditions for the community to get timber/ other forest produce/pasture and outlining community duty towards their protection and improvement (Section 28 (2)). Also, the state government is empowered to cancel any such assignment. ***Forest Conservation Act, 1980*** furthers a higher degree of centralism, barring de-reservation of forests and use of forests for non-forest purposes by the state government without the central government's prior approval (Section 2). Non-forest purpose under the Act means breaking up or clearing any forest land for cultivation of tea, coffee, spices, rubber, oil-bearing plants, horticulture crops or medicinal plants for any purpose other than reforestation. The Supreme Court's interpretation of the Act[10] as forests connoting its dictionary meaning including all forests irrespective of ownership or classification has further created difficulties for forest dependent communities. Community and individual rights to land for cultivation and habitation are recognized in ***Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006.*** Besides cultivation-habitation rights (Section 3 (1-a)), the Act secures rights to community land including management, protection, regeneration and conservation of such lands; rights over minor forest produce, fish and other aquatic products to STs and other forest dwellers (Section 3). However, these rights can be enjoyed for subsistence and livelihood only and not for commercial purposes. Gram Sabhas, under the Act, have authority to initiate the process for determining the nature and extent of individual or community forest rights or both that may be given, within local limits of its jurisdiction, by receiving claims, consolidating and verifying them (Section 6 (1)).

All statutory laws above are concerned with state-owned forests and their management. The Acts confer certain rights to the community at places, but Panchayats have not been accorded much powers or responsibilities regarding forest management.

Panchayats along with the community could secure management rights in ***Madhya Pradesh Lok Vaniki Act, 2001.*** The Act provides for the management of any private or revenue tree-clad area in the state. Under the Act, any person holding property rights in a tree-clad area or any Gram Sabha or Panchayat holding such rights may apply to the prescribed authority with the intention of its management (M.P. Lok Vaniki Rules 2002, Section 3 (1,2)). However, management plans must be approved by the DFO in general and by the Ministry of Environment and Forest through the state government if the tree-clad area, intended to be managed, exceeds 10 hectares (M.P. Lok Vaniki Rules, 2002, Section 5). The GP or Gram Sabha may authorize the Sarvajanik Sampada Samiti of the Gram Sabha for the implementation of plan prescriptions for 'Lok Van' (M.P. Lok Vaniki Rules 2002, Section 6 (2)). In addition, Gram Sabha/GP gets representation in the monitoring committee constituted by a competent authority under the Act. Further, to facilitate management and sustainable use of private forests/tree-clad areas, Lok Vaniki Kisan Samiti (Lok Vaniki Farmers Committee) is established as a non-government voluntary cooperation organization under M.P. Lok Vaniki Rules 2002.

Operative Rules in Madhya Pradesh under Forest Acts also demonstrate a state-centric approach. The ***Madhya Pradesh Protected Forest Rules 1960*** confers all regulatory-administrative powers to the state including determination of rights to forest produce and rates of forest produce removed from protected forests, management of forest tress and vegetation, issuing of licence and passes, fishing rights, fire prevention, allotment of land in river beds or tanks for cultivation, regulation of cutting, sawing, conversion and removal of trees and timber, regulation of collection, manufacture and removal of forest produce along with cutting of grass and pasturing of cattle. Further, the ***Madhya Pradesh Grazing Rules 1986*** empowers the forest department to constitute grazing units and issue licences to the local community for its use. Based on the carrying capacity of a grazing unit, it may be closed for conservation purposes and in such cases, the local Panchayats must be notified about such closure.

It is worthwhile to mention that the JFM that forms the basis of a decentralized forest management system in the country is not enabled by formal enactment. The concept was envisioned in National Forest Policy 1988, to regenerate degraded forests by the inclusion of local users. Following the policy, the Ministry of Environment and Forest issued a circular in 1990 requesting all states to adopt JFM. Madhya Pradesh brought the first resolution to this effect in 1991. Amended many times, the programme mainly involves two stakeholders – forest department and community/user groups as forest committees at village level. Gram Sabha has been made the general body of such committees after amendments, and no other role is given to Panchayats or to Gram Sabha.

Like forests, the state is made the principal authority regarding water resources. All rights in the water of any river, natural stream or natural drainage channel, natural lake or other natural collection of water vest in the state according to ***M.P. Irrigation Act, 1931*** (Section 26). However, the Act provides for irrigation Panchayats for all villages or group of villages in the command area of the canal. Such irrigation Panchayats will consist of a Sarpanch and two or more members elected by permanent landholders and occupiers from among themselves (Section 62 (1)). These Panchayats are to assist the irrigation department officers in arranging for the construction of water-courses, in recording and checking irrigation, in making measurements and settling disputes; collecting irrigation revenue and remitting it to the treasury; and arranging for the repair of water-courses (Section 62 (2)). Further, these Panchayats are empowered to collect a prescribed sum from a person committing any offence under the Act. However, the expenditure of such a sum by the Panchayat is subject to the collector's control.

M.P. Farmers Participation in Irrigation Management Act 1999 also offers a scope for local level management, however, through the community instead of local governments. Farmers organizations such as water users' association (Section 3), distributary committees (Section 5) and project committees (Section 7) are formed to work with the state for management-maintenance of state-owned irrigation systems such as tanks, wells, reservoirs, tube-wells etc. Resources are allocated to such organizations in terms of grants and commissions from the state government as a share in water tax, and prescribed fees collected by such organizations (Section 22).

The management of land resources is provided in ***Madhya Pradesh Land Revenue Code 1959*** which secures state ownership in all the land including standing and flowing water, mines,

quarries, mineral and forests reserved or not (Section 57 (1)). The management of common land including land use planning and regulation of its uses is vested in the state. Apart from common lands, the state is authorized to prescribe standards of cultivation and management of private lands and for efficient utilization of land resources (Section 255 (1)). Local governments – GP or Gram Sabha if there is no established Panchayat, are mentioned in the Act to manage the village and perform such functions in this regard as delegated by the state government (Section 232 (1), (8)). Grazing fee is allocated to local governments' fund along with any other sums as may be prescribed by the state government (Section 232 (5)).

Central and state schemes providing rules/guidelines for NRM

Certain central and state schemes, operational in a state also provide for the management of land-water-forest resources, like Balram Taal yojna, Soil Health Card, National Mission for Sustainable Agriculture, State Micro Irrigation Mission Scheme and Encouragement for Plantation on Private Land Scheme. However, MGNREGS and Pradhan Mantri Krishi Sichayi Yojna (PMKSY) are major schemes providing an opportunity for NRM. Both schemes engage Panchayats as an important actor to undertake resource-management activities. ***MGNREGS***, applicable to the whole state in all Panchayats, designates Panchayats as the principal authority for planning-implementation of schemes made under the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), 2005. As is widely known, MGNREGA is an Act to provide for 100 days of guaranteed wage employment in a financial year to every household whose adult members volunteer to do unskilled manual labour work. For the provision of 100 days of employment, Panchayats are directed to create jobs by taking up NRM activities in the village. The list of permissible works (Schedule I, Section 1) includes:

- Water conservation and water harvesting;
- Drought proofing (including afforestation and tree plantation);
- Irrigation canals including micro-minor irrigation works;
- Provision of irrigation facility to land owned by households belonging to SC-ST or to land of beneficiaries of land reforms or that of beneficiaries under Indira Awas Yojana of Government of India;
- Renovation of traditional water bodies including desilting of tanks;
- Land development;
- Flood control and protection works including drainage in water logged areas;
- Rural connectivity to provide all-weather access; and
- Any other work which may be notified by the Central Government in consultation with the state government

The list has been made much more exhaustive by adding more works. However, the original list sufficiently and concisely demonstrates that the Act provides ample opportunity for NRM works.

As the village level principal authority, the GP is authorized to identify, execute and supervise projects to be taken up on the Gram Sabha's recommendation. The GP will maintain a shelf of works to be taken up as and when demand for work arises. The Act has been given an overriding effect.

PMKSY, an amalgamation of several preceding water management related schemes, incorporates the Integrated Watershed Management Programme (IWMP) as the watershed component in the scheme. In line with central efforts and guidelines, Madhya Pradesh adopted watershed management in a mission mode as the Rajiv Gandhi Mission for Watershed Management in August 1994. The programme targeted rainfed areas and culturable wasteland with the augmentation, conservation and optimum utilization of soil-water resources, reducing vulnerability to droughts and fluctuations in agricultural production and restoring ecological degradation and improving the environmental resource base as its major objectives. As specific areas are targeted, the scheme is not applicable to all Panchayats like MGNREGS. Activities may include ridge area treatment, construction of check dams, stop dams, nala bund, farm ponds, tanks for rain water harvesting, field bunding, contour bunding/ trenching for soil-water conservation, nursery raising, afforestation, horticulture and livelihood generation.

The scheme is implemented through the Department of Panchayat and Rural Development. Though ZP and JP are involved in its implementation and supervision, GPs are not assigned much role in implementation. The ZP, operating through watershed cell-cum-data centre, is made the nodal agency for coordination-supervision of watershed projects in the district. The project is implemented by a project implementation agency (PIA) in micro watershed through watershed committees at village level. Panchayats, government and NGOs may apply for and may function as PIA. Members of watershed committee are chosen in the Gram Sabha meeting by Gram Sabha members.

Guidelines specify Panchayats' involvement in programme implementation, particularly in the formation of watershed committees and self-help groups, in ensuring convergence and fund supplement from other programmes, in the involvement of Gram Sabha and finally in proper implementation according to guidelines.

Hence, the overall institutional set-up for DNRM in the state does not establish local governments as the only authority for NRM at local level, rather local governments share this role with other actors, prominently with the community. Moreover, certain NRM functions are devolved to local governments, although the functional domain is curtailed by upholding the state control through its regulatory powers and ultimate property rights. The following section offers some ground evidences for how local governments in the state are making use of the assigned roles and responsibilities.

Ground Evidences

In such an extensive framework for DNRM in the state, it may not be justified to appreciate to Panchayat's actual engagement with NRM by looking at their performance under any single component. Nonetheless, the number of works taken up by Panchayats in specified work categories under MGNREGS could be considered a good indicator to demonstrate to Panchayat's engagement with NRM to begin with. It is to be noted that MGNREGS has provided an opportunity to Panchayats through assigning certain defined functions in the realm of NRM along with providing the funds and functionaries to take up its assigned role.

Table 1 presents the works taken up by Panchayats in the state from 2012-2015 which suggests that on average, only 30.42% of public nature NRM works have been taken up during the

period. Given the permissible works' composition where NRM works constitute around 78% of total works, public works accounting for 66.6%, the percentage of average NRM works taken up by Panchayats during the period, i.e. 30.42%[11] indicates that the Panchayats have not been able to take up NRM works to their optimum level. Though the reasons are needed to be explored before drawing any conclusions regarding institutional capacity, the fact remains the same that local governments have not been very much involved in NRM works at the ground level.

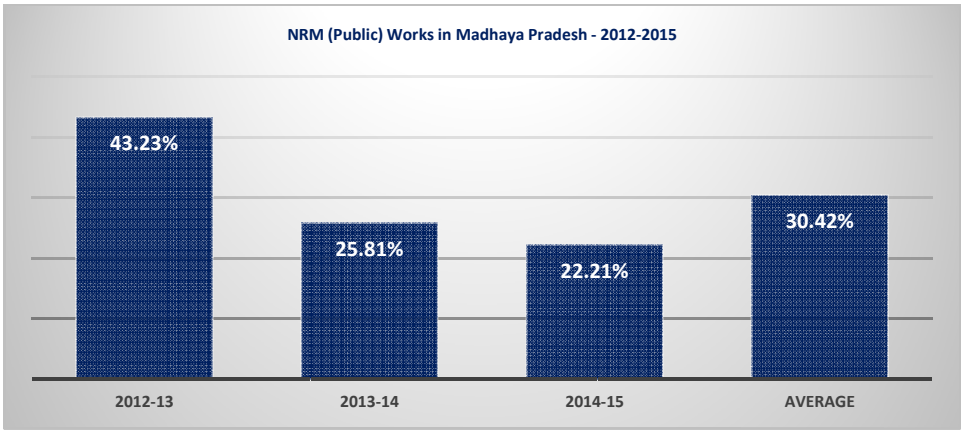

Table 1: Number of Works undertaken by Panchayats under MGNREGS – 2012-2015

SN	Works Undertaken	2012-13			2013-14			2014-15			*Average of total works*
	Work Category	***Completed Works***	***Ongoing Works***	***Total***	***Completed works***	***Ongoing Works***	***Total***	***Completed Works***	***Ongoing Works***	***Total***	
1.	**NRM PUBLIC WORKS**										
1.1	*Water Conservation*	52669	51005	103674	21547	43816	65363	17646	28191	45837	71624
1.2	*Watershed Management*	22999	19523	42522	8138	17363	25501	7337	11020	18357	28793
1.3	*Irrigation*	27	169	196	26	554	580	101	702	803	526
1.4	*Traditional Water Bodies*	4901	5343	10244	2298	3869	6167	1949	2118	4067	6826
1.5	*Afforestation*	35765	39928	75693	18600	24824	43424	13048	13944	26992	48703
1.6	*Land Development*	64771	42298	107069	35081	69868	104949	53017	25707	78724	96914
	Sub Total	**181132**	**158266**	339398	**85690**	**160294**	245984	**93098**	**81682**	**174780**	**253387**
2.	**INDIVIDUAL ASSETS FOR VULNERABLE SECTIONS**										
2.1	*Improving productivity of lands*	59751	113148	172899	68828	159259	228087	85379	89754	175133	192039
2.2	*Improving livelihoods*	1976	1287	3263	723	2063	2786	492	3481	3973	3340
2.3	*Development of fallow/waste lands*	53	440	493	455	1781	2236	1667	797	2464	1731
2.4	*Construction of house*	1	128	129	4	239	243	4	515	519	297
2.5	*Promotion of livestock*	16	1689	1705	4428	65849	70277	22101	58473	80574	50852
2.6	*Promotion of fisheries*	0	27	27	4	368	372	142	284	426	275
	Sub Total	**61797**	**116719**	178516	**74442**	**229559**	304001	**109785**	**153304**	**263089**	**248535**
3.	**COMMON INFRASTRUCTURE FOR NRLM COMPLIANT SELF- HELP GROUPS**										
3.1	*Agriculture productivity*	0	37	37	0	38	38	4	45	49	41
3.2	*Common work-sheds for livelihood activities of self-help groups*	0	0	0	0	0	0	0	14	14	4
	Sub Total	**0**	**37**	**37**	**0**	**38**	**38**	**4**	**59**	**63**	**46**

4.	**RURAL INFRASTUCTURE**										
4.1	*Rural sanitation*	19718	99924	119642	91791	133835	225626	140998	63464	204462	183243
4.2	*Road connectivity/Internal roads/Streets*	45715	76549	122264	47016	107948	154964	51411	71065	122476	133234
4.3	*Play fields*	4	13	17	3	27	30	11	676	687	244
4.4	*Disaster preparedness/Restoration*	617	875	1492	414	1025	1439	479	726	1205	1378
4.5	*Construction of building*	0	261	261	7	5572	5579	308	9602	9910	5250
4.6	*Food Grain storage structures*	0	6	6	0	290	290	23	392	415	237
4.7	*Production of building material required for construction*	1	16	17	4	69	73	7	95	102	64
4.8	*Maintenance*	75	284	359	69	323	392	178	223	401	384
4.9	*Any other works*	12011	10975	22986	6684	7895	14579	3689	5356	9045	15536
	Sub Total	**78141**	**188903**	**267044**	**145988**	**256984**	**402972**	**197104**	**151599**	**348703**	**339573**
	Grand Total	**321070**	**463925**	**784995**	**306120**	**646875**	**952995**	**399991**	**386644**	**786635**	**841541**

Source: MGNREGS website

Conclusion

Based on the above discussion, theory has less discussed and practice has less witnessed devolution to local governments in the DNRM arena. Also, where such devolution has taken place, local governments have not always been successful in making use of this opportunity at the ground level.

Considering resource users capable of influencing resource conditions greatly through their regular resource interaction, the theory looks at their engagement with NRM as a promising option. Unlike service delivery functions that require the mediation of intermediate authority even at local level, NRM justifies the direct involvement of its primary stakeholders – resource users. Recent trends in theory advocate distributed and polycentric governance also (Marothia, 2010, pp 21); nonetheless, as pleaded by Ribot (2002, pp 12), "institutional plurality is important but unmediated by representation, it may serve only the best organized and most powerful interests and elites".

Less exploration in the practical world, at times, is associated with a strong state will to control resources by shedding some of its functional load to user groups instead of creating a parallel local authority. Due to their economic stake in resources, the state does not want to share its ultimate governing powers. Further, democratic decentralization is still an emerging experimentation; it needs time and resources from states that may not always be in a position to devote these.

Ground evidences suggest the need for empirical inquiry into reasons thereof. Without this, it will be naïve to comment on local governments' potentials-limitations regarding NRM. Despite the literature deficiency in such explorations, certain factors are cited for success-failures in general. Sound institutions considering resource and community nature are one of such factors. Transfer of constitutional, collective choice and operational level authority (Marothia, 2010), secure property rights, and discretionary powers; an address to social differentiation at local level; appropriate mix of flexibility-rigidity regarding rule-modifications; and provisions for institutional synergy at local level are some components of sound institutions. Appreciation of the institutional set-up in Madhya Pradesh against such ideal composition exhibits that - institutional arrangements transfer only operational authority to local governments, provisions for all functions, funds and functionaries are made subject to rules made by state; though conferred with planning powers, local governments are made more of implementing agencies with little discretionary powers; property rights are not transferred, moreover devolved NRM functions are majorly concerned with degraded resources; rule-modifications are not allowed at local level and despite multiple local actors, there are not very clear provisions for local level institutional synergy except a few instances like making Gram Sabha the general body under JFM efforts or involving local governments in watershed programmes. In such an institutional backdrop, the onus could be shifted to these institutions for the failure of local governments to engage and deliver. However, as mentioned above, without a detailed enquiry, these conclusions will not be justified. Nonetheless, these failures of local governments to engage with NRM could be as a point of departure for a detailed and context-specific enquiry. As discussed in theoretical discourses around the issue, other mediating factors also cast their influence; more context-specific inquiries, taking the kind of world being acted upon and the community characteristics into its consideration, may offer deeper insights.

Notes

[1] Based on World Bank and United Nations Conference Trade and Development data, Barbier (2005) shows export concentration in primary commodities for 95 low-middle income countries. More than three quarters i.e. 72 countries have 50% or more of their exports from primary products. Barbier refers to such countries as resource dependent.

[2] Though line departments/civil society/private agency appears as third possibility, this seems to be an intermediate level option working through user groups or local governments at local level.

[3] Though user group associations may also result from statutory mandate, informal user groups are common while leaving traditional Panchayats aside, local governments are statutory establishments mostly.

[4] Through nesting and the principle of subsidiary, the possibility of up-scaling successful CBNRM initiatives is also explored. As V. Ostrom (1999) has notably argued, such organizations can be reconstituted to represent all key interests at higher levels or forming voluntary federations to deal with common issues affecting the wider community and spatial unit.

[5] With reference to the decentralization in India, the term 'code' is used here to denote the written Acts and statutes that establish local governments to deal with local governance issues.

[6] Based on the average score of the state on the devolution index for three years, 2011-12, 2012-13, 2013-14

[7] Devolution index ranks states according to enabling environment in states under the Constitutional framework. Devolution reports with devolution index are being prepared by independent organizations since 2006 under the sponsorship of the Ministry of Panchayati Raj, Government of India.

[8] There may be many informal arrangements for DNRM in a state but only formal legal enactments providing for DNRM are considered here.

[9] For the purpose of paper, statutory laws relating to land-water-forest are referred

[10] Supreme Court in T.N. Godavarman Thirumulpad v. Union of India, 1995 clarified that 'forest' should be understood as per its dictionary meaning, resulting in expanding the law's scope to all forests. A forest therefore can be declared reserved or protected irrespective of private or state ownership.

[11] This does not include individual category works, as such works lack clarity in data and also status of undertaken individual works as NRM works is debated in the state.

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