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Equity and Inclusion in Participatory Watershed Development

**Core Challenges for
Community-Based Natural Management in India**



Author: Tine Vestergaard Jacobsen

Supervisor: Ellen Hillbom

ABSTRACT

The purpose of this paper was to identify key challenges of equity and inclusion in participatory community-based watershed development management. Furthermore, my ambition was to generate findings that are relevant to research beyond the case of watershed development, i.e. community-based natural resource management (CBNRM) in general.

On the basis of a historiographic overview of the main developments in research, I illustrate how issues of equity and inclusion are pressing concerns for contemporary CBNRM in general and for participatory watershed development in particular. I develop a theoretical framework to analyze how institutions impact these issues, i.e. the distribution of natural resources and the modes of participation in natural resource management.

In the analysis I use qualitative data from four case study villages in Udaipur District of Rajasthan, India. In all four villages, Seva Mandir, which is a large local NGO in the region, implements community-based watershed development projects.

My findings suggest that equitable and inclusive CBNRM requires the formulation of explicit re-distributional strategies, as well as development agencies that dare to contest and challenge existing decision-making practices in the communities.

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LIST OF ABBREVIATIONS

CBNRM	Community Based Natural Resource Management
CPRs	Common-Pool Resources
GVC	Gram Vikas Committee (Village Development Committee)
GVK	Gram Vikas Kosh (Village Development Fund)
PWD	Participatory Watershed Development
NRM	Natural Resource Management
SM	Seva Mandir
WB	The World Bank

1. INTRODUCTION

Ever since Garrett Hardin (1968) wrote his famous article on the *Tragedy of the Commons*, there have been heated academic debates over proper natural resource management (NRM) arrangements. Presently and after decades of disputes, it is no longer defied that local level NRM can indeed produce sustainable solutions to game-theory dilemmas a la Hardin's. Valid empirical evidence here for has been produced (Ostrom 1990; Bromley et al. 1992; Wade 1988).

We have now entered a debate, where not merely the functionality and efficiency, but the *fairness* of community-based natural resource management (CBNRM) is under scrutiny (Agrawal 2003). Fairness is discussed in this paper in regard to two key considerations. First, the extent to which natural resources managed by local communities are accessed and distributed equitably and second, the degree of inclusion of the most marginalized in local level decision-making on natural resource management (NRM). My study enters the 'fairness debate' by investigating the challenges in ensuring equitable and inclusive CBNRM. The object of my study is NGO-driven participatory watershed development (PWD) in Rajasthan, India. In particular, I have studied four PWD-project sites of *Seva Mandir*, which is a large and well-established NGO in the region. It undertakes various livelihood enhancing projects such as wasteland restoration through watershed development.

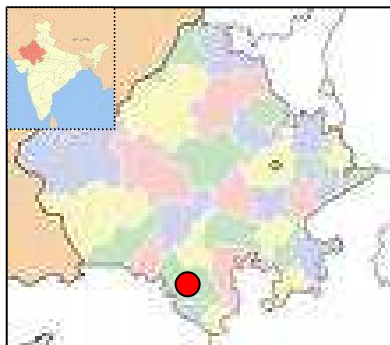
1.1 THE RELEVANCE OF WATERSHED MANAGEMENT

Watershed development is a widely pursued strategy for rural development throughout India's semi-arid regions (Kerr 2002: 1389). It is a land-based strategy to enhance agricultural productivity, which involves the rehabilitation of degraded lands through measures to prevent soil erosion, increase soil moisture and availability of surface and ground water reserves (Joy/Paranjape 2004: 30). Because it implies rehabilitation of the common lands it is also a development intervention which requires a high degree of collective action among beneficiaries (Kerr 2001: 1223). In recognition of this, there has been a shift towards more participatory methods of planning and implementation of

watershed projects (Farrington et al. 199: 4). However, it is also a development intervention that tends to widen rural inequalities and exacerbate local disputes over resource use (Kerr 2002; Joy/Paranjape 2004: 74ff) which may undermine the very foundation for collective action. This inherent paradox of participatory watershed development poses a *hard case* for equitable and inclusive CBNRM. Studying the management of participatory watershed development is likely to reveal key challenges in achieving equitable and inclusive CBNRM. Identifying such key challenges is the aim of this paper.

The importance of achieving sound watershed management and the simultaneous challenge to obtain it, brings me to a focus on institutions, i.e. the formal and informal “*rules of the game*” in society (North 1990: 3). Institutions are crucial because they mediate conflicts over access and control (Ostrom 1990). It is argued in this paper that micro-politics and local level heterogeneity are crucial issues in PWD and that management institutions need to address challenges of distributional equity and inclusion.

Case study area



Map of Rajasthan. The red circle marks the case study area

South-western Rajasthan is a semi-arid hilly area dominated by the Aravelli mountain range. Rural areas are poor and all households rely heavily on natural resources for their subsistence and income (Vyas 2007: 17). Most households attend to the common lands for fodder, firewood and for grazing, but the poorest households are most heavily dependent on these resources due their low output from the infertile lands on the upper slopes that they cultivate (Jodha 1989: 266). Water for domestic and agricultural purposes is a notorious scarce resource in the region (Rathore 2007: 54ff).

Ever since independence there has been a decline in common land all over India due to forces of privatization of land and commercialization of agriculture (Beck/Nesmith 2001: 123). The decreased availability of common lands has pronounced differences between

the landed rural rich and the small-holding or landless rural poor (Ibid.). Thus, PWD projects in Rajasthan intervene on highly contested lands and impact socially and economically on increasingly stratified rural societies. The stratification is accentuated by the cultural structures of hierarchy and oppression that dominate rural communities in Rajasthan (Shah et al. 2007). Hence, equity and inclusion of PDW is a particular challenging task in Rajasthan and is likely to reveal key challenges in achieving equitable and inclusive CBNRM.

1.2 AIM OF RESEARCH, RESEARCH QUESTIONS AND SCOPE

My ambition is to contribute to contemporary research on CBNRM. Through analysis of a case study, I aim to provide examples of how equity and inclusion are addressed in a relevant CBNRM project, and what challenges of broader relevance can be identified here from. By focusing on the institutional level, I suggest that dynamics of inequity and exclusion can be addressed through proper planning and project designing.

Specifying the scope

Recent research on CBNRM has highlighted the need to broaden the analytical perspective from local level to institutions at multiple levels (Leach et al. 1999). Although studying institutions and their interrelationship across levels is surely valuable, it is not possible within the framework of this paper. Hence, I have limited myself to study only local level formal and informal institutions. The formal institutions Seva Mandir's PWD projects are the so-called village development committee (*gram vikas committee - GVC*) and the *gram sabha* (village meeting).

Another limitation of scope is the limited attention directed to larger contextual factors that impact CBNRM, e.g. global market demands, demographic development or environmental degradation caused by climate change (Agrawal 2001:1655f).

Research Questions

- a) In what ways are equity and inclusion relevant topics in CBNRM in general, and in watershed development in India in particular?

- b) How do institutions governing Seva Mandir's watershed development *facilitate equitable access* to rural resources?
- c) How do these institutions *facilitate inclusive decision-making* in the management of resources?
- d) What are the challenges at institutional level in ensuring equitable and inclusive watershed management and what is the general relevancy of these challenges to other cases of watershed development?

Running a normative errand

It follows from above that this paper is guided by certain normative viewpoints. Even though there are indeed rational arguments for pursuing equitable and inclusive CBNRM, part of the search for 'good' institutional arrangements roots in a normative understanding of fairness that goes beyond instrumental thought. These normative propositions surely differ from the ideological positions of my respondents, which confront me with ethical considerations as to the validity of my indicators. However, I have tried to remain conscious of these issues and to draw on standards for equity and inclusion from regional-specific research rather than my own instincts. Having stated this, I consider it legitimate to approach research from a normative perspective as long as there are inbuilt self-reflection into theory-making, humbleness in the methodology and honesty towards the reader (Myrdal 1968: 48ff).

1.3 STRUCTURE OF THESIS

I build up my argument in favor of considering equity and inclusion in CBNRM in steps which form the structure of the thesis. In chapter 2, I provide a historiographic overview of the research on CBNRM. In chapter 3, I present my theoretical framework in logical continuation of chapter 2. In the fourth chapter, I present my methodology and chapter 5 provides a more comprehensive description of the case study area. Chapter 6 comprises an analysis of my empirical data. The conclusion rounds up the argument by providing suggestions of how to understand and address inequity and exclusion in CBNRM at the micro-institutional level.

2. LITERATURE REVIEW – PERSPECTIVES ON CBNRM SINCE HARDIN

In this chapter, I provide a historiographic overview of the research on CBNRM. I argue that this research can be divided into three ‘generations’ which begins with a debate on the viability of local level management of common-pool resources (CPRs) and ends with a discussion of how and to whose benefit CPR management can work.

2.1 FIRST-GENERATION RESEARCH: VIABILITY OF CBNRM

Communal ownership as the problem

In the 1960s, a large concern emerged for population growth and its link to poverty and food scarcity. This anxiety evoked Malthusian concerns for the natural carrying capacity of the earth, the “*Limits to Growth*” (Meadows et al. 1972) and the need for curbing population growth in order to halt the destruction of scarce resources. The debate between Neo-Malthusians and their critics includes various issues, ranging from opposing natural science views on the regenerative capacities of the eco-system (Holling 1973) and the potential of human technology to produce substitutes, to ethical discussions of who shall carry the burden of massive resource use in the developed world (Sandbach 1978).

When Garrett Hardin published his article on the *Tragedy of the Commons* in 1968, he launched a specific domain of this debate, which is the focus of this paper: the institutional one. The institutional debate centers on natural resource *management* and how it can ensure most efficient and sustainable natural resource use in a world of scarcity. Hardin’s prime objective was not to specify what regime can sustain resources best, but rather to show that non-owned resources inevitably is subject to overuse and depletion. His core proposition of a tragedy was, that a group of individuals each pursuing his own good (e.g. increasing his herd) by extracting a common resource (e.g. the pasture) eventually destroys that resource (Hardin 1968).

Hardin’s article has a central weakness, which has been repeated by scholars ever since (Ostrom 1990; Bromley 1992) and was eventually acknowledged by Hardin himself

(Hardin 1991): he fails to distinguish between different open access (unmanaged commons) and communal property (commons). Sufficient empirical evidence now prove that certain subtractable and semi-exclusive resources are managed in regimes, which are significantly different from open access resources. In the so-called *common property regimes*, users exercise their rights to the resource under socially controlled conditions. In the 1960s this crucial difference between open access resources and common-pool resources remained largely unacknowledged¹, which essentially reduced the options of resource protection to two: state control versus privatization (Ostrom 1990: 8&12).

Privatization as the solution

For Harold Demsetz, one of Hardin's contemporaries, the choice of an appropriate property regime for scarce natural resources was obvious. His article *Toward a Theory on Property Rights* from 1967 (Demsetz 1967) is an unambiguous promotion of the private property regime. Demsetz's acknowledged the possibility of establishing a property regime based on "*communal ownership*" (ibid: 354), but he defied the efficiency of any such arrangement in comparison to a private property regime with reference to their high negotiation and policing costs (ibid. 355f).

Even though privatization as the only efficient way of managing scarce natural resources is part of the first generation debate, it is not an extinct argument. Historical examples of scholars who favors the argument of privatization over other natural resource management regimes are several such as Steven Cheung (1970, cf. Carlsson 2003: 35), North/Thomas (1977, cf. Runge 1992: 22) and Robert Smith (1981). A recent policy phenomenon which bears witness of a sustained preference for privatization of the commons is the world wide privatization of water resources (Bakker 2007).

¹ In some places this difference continues to be ignored. So does S.N.S. Cheung write in *The New Palgrave – A dictionary of Economics* 1996-edition (p. 504): "In a common property, there is no delimitation or delineation of its use rights to any private party. No one has the right to exclude others from using it, and all are free to compete for its use"

State-control as the solution

In the first generation debate during the 1960s and 1970s, state control was an alternative proposition to prevent a ‘tragedy’. Scholars such as Robert Heilbroner (1974) suggested that ultimate state ownership could be the only viable strategy to prevent massive degradation of natural resources (cf. Ostrom 1990: 8f). This strategy is very rarely promoted today. Rather, the complex and dynamic nature of environmental change has led to a preference for *adaptive governance* of common-pool resources (Dietz et al. 2003). Adaptive governance includes institutional variety in which state regulations at national and international level is one of many necessary institutional tools in the management of common-pool natural resources (ibid).

2.2 SECOND-GENERATION RESEARCH: EFFICIENCY OF CBNRM

In the second generation research on common-pool resources, the question is not if but when and under what conditions common property regimes are more efficient than a private property arrangement. This stream of research is dominated by institutional economics, whose primary concern is to explain how institutions ease economic transfers (Ostrom 1990).

Carl Dahlman’s book on *The Open Field System and Beyond* from 1980 marks the entrance to the second generation debate on communally owned resources. Drawing on historical inquiry into the open field system of medieval England, he denounced the universal claim that property is always most efficiently managed under private property regimes and showed that common property arrangements *may* be efficient in a given context, i.e. where such an arrangement has evolved to effectively reduce transaction costs in natural resource management.

Later empirical studies have supported the findings of Dahlman with more contemporary data sets. The skeptical inquiry into the truth of undifferentiated institutional paradigms such as privatization or nationalization gained force during the 1980s and early 1990s. Elinor Ostrom is the most famous of these scholars. In her book, *Governing the Commons* (1990), she presents examples from a rich case-study base on the efficiency of

some locally managed resource systems in reducing transaction costs. She identifies eight overall similarities of successful common property regimes (Ostrom 1990:91). Similar findings are presented in Bromley et al.'s anthology *Making the Commons* work from 1992. According to Bromley (1992: 7ff), the malfunctioning and degradation of CPRs in developing countries have more to do with the breakdown of local institutions and capacities by colonialism and nation-building, than their inherent inefficiency and tragic self-destruction. Runge (1992) argues that private property regimes work within a functioning market economy. However, in a poor rural context, a functioning market economy is absent due to poverty and subsistence livelihood.

The texts referred to above generally argue in favor of CBNRM in its function as an economic efficient CPR-regime. Their overall ambition is to show that CBNRM is just as viable and feasible as a private property regime under certain social, economic and cultural conditions. Among these, Elinor Ostrom's main ambition was to show how game-theory dilemmas can be overcome by playing a new game by the same rules (Ostrom 1990: 15). Social capital researchers have provided support to second generation 'efficiency' research with socio-institutional arguments. They argue that CBNRM can be both stable and efficient due to the norms of reciprocity and social trust in local communities (Pretty/Ward 2001).

2.3 THIRD-GENERATION RESEARCH: FAIRNESS OF CBNRM

Whereas the first and second generation research were part of macro-scale debates on preferable development strategies (privatization vs. state control and privatization vs. community control), *third generation research* has a different link to the political reality. The new and general consensus among policy makers and practitioners around a participatory and pro-poor development paradigm means that it is no longer a question *if*, but rather *how* and under what conditions CBNRM can work. But this research goes beyond drafting design principles for good CBNRM. Scholars have extended their interest in local arrangements' ability to produce sustainable management of natural resources to include their *capability of ensuring equitable and fair regimes* for natural resource use (Agrawal 2003). A critical interest of this research is how local

arrangements benefit the poorest and the marginalized and implies a focus on intra-communal power differentials (Kerr 2002: 1388)

Third generation research contributes to CBNRM theory-making in four ways: First, by adopting a dynamic understanding of institutions; secondly, by recognizing and incorporating local contextual factors into their analysis and thirdly, by directing focus to micro-politics and fourth by proposing new objectives for CBNRM. All four aspects alter the focus of research from generating design-principles to understanding the complex dynamics of successful CBNRM. This paper assigns to the new analytical approach offered by third generation research (see theory chapter).

Dynamic institutions

Third generation scholars offer a dynamic understanding of the relationship between individuals and institutions, which recognizes the recursive process of individual behavior and institutional change. Rather than assuming that institutions determine human behavior in a one-way casual process, third generation scholars adopts a dynamic understanding of an *interrelationship* between institutions and community members (Cleaver 2000: 362). Thus, instead of viewing institutional development as an evolutionary process towards an ever improving resource management system, such authors prefer to view this process as a non-linear, sometimes contradictory and often a highly conflict-ridden process (Agrawal 2003: 245; Cleaver 2000).

Furthermore, third generation research rejects the ahistorical representations of ‘community’ which are applied to explain the applicability of universal design principles for natural resource management (Mosse 1997: 469ff). In third generation research, context matters (Peters 1994: 4ff). From this perspective, social, cultural and historical factors frame the process and outcome of institutional change, e.g. which language can be applied to legitimize an institutional set-up². These justifications may not be economically rational, but nevertheless make sense in a particular socio-cultural context

² Local particularity in processes of institutional change is also explained through ‘path dependency’, which recognize that an “*institution is locked in by the institutional structure*” (Carlsson 2003: 57, following North 1990)

(Cleaver 2000). This approach implies a rejection of the assumption that people always act according to a universal economic rationality. Rather, rationality of resource use is embedded in its social, cultural and institutional context. By recognizing the existence of multiple rationalities, third generation scholars dismiss blueprint models for CBNRM and acknowledges their fluid structures and negotiable terms (Cleaver 2000: 363; Mosse 1997: 472).

Power differences matter

Third generation research provides a new perspective from which community and CBNRM institutions can be described which directs critical interest to issues of power, local level heterogeneity and micro-politics (Agrawal 2003; Mosse 1997). It rejects idealized notions of community and emphasizes the political nature of local institutions (Agrawal/Gibson 1999). Institutions are dynamic because they are subject to contestation and conflict between resource users. From this perspective, the truth about CBNRM institutions is that they are avenues for struggle over resources where the powerful seek to optimize control and access:

“Indeed, if institutions are the product of conscious decisions of specific individuals and groups, as many common theorists argue, then it may also be reasonable to suppose that institutional choices by powerful groups deliberately aim to disadvantage marginal and less powerful groups” (Agrawal 2003: 257).

Management of natural resources is thereby not a merely technical task. On the contrary, CBNRM institutions themselves express the hierarchical structures of a community, which are the outcome of long-term struggles and negotiation within communities and households. Understanding CBNRM institutions is about *bringing politics back in*, i.e. to engage in analysis of micro-political dynamics (Moore 1999). An important branch of the critical/political approach is to focus on intra-household differences when it comes to resource use preferences of men and women (Agrawal 1999 & 2001; Zwarteween/Meinzen-Dick 2001).

The focus on difference and heterogeneity implicitly suggest a new set of success criteria for CBNRM institutions. In addition to bringing about sustainable resource use, CBNRM

institutions should be regarded as an opportunity for bringing about egalitarian social change in households, local communities and beyond (Li 1996; Agarwal 1998; Agrawal/Gibson 1999). Thus, the overall ambition of ‘third generation’ researchers is to promote a better understanding of how local institutions work and to whose benefit. Breaking hierarchy and emancipating from exploitative structures of dominance and oppression is the implicit agenda of this type of research. The recipe for change is not to revitalize old regimes, but to empower the marginalized and endow them with negotiation power that can help them to challenge the structure itself and to redefine the ‘rules of the game’ (Nelson/Wright 1995; Agarwal 1998; Beck/Nesmith 2001).

2.4. THE INDIAN DEBATE ON CBNRM AND WATERSHED MANAGEMENT

The debate on natural resource management in India is largely a reflection of the development in international debates. However, controversies in the debate reflect diverging views on the impacts of colonialism and the cultural structures found in the caste system and the segregation along gender lines.

During colonialism, the British rulers introduced a centralized system of resource management and conservation in India. Especially the forests, which were of commercial and strategic importance, were put under rigid control by the colonial masters (Gadgil/Guha 1992: 113). The bureaucratic and state-led NRM substituted different localized arrangements prior to colonial rule and led to local communities’ loss of control over CPRs (Gadgil/Guha 1992: 113ff). After India’s independence in 1947, the newly elected political elite headed by Jawaharlal Nehru opted for an industry-led development strategy. Instead of following Mahatma Gandhi’s vision of localized development through pre-colonial like ‘village republics’, Nehru launched a large-scale industrial revolution in India (Metcalf/Metcalf 2006: 245). Although much of the heavy industry was nationalized in the name of socialism (ibid: 243), land reforms in the post-independence era effectively paved the way for privatization and commercialization of rural common land resources (Jodha 1985: 253f). Even though the intention at central political level behind the land reforms was not to spur privatization, but rather to abolish feudal land ownership structures and give back land to local communities, the state

acquisitions of land quickly became subject of patronage. The political institutions at state level were dominated by the pre-independence elite and they administered the public land in their own best interest (Metcalf/Metcalf 2006: 243ff).

During 1970s and 1980s a widespread disillusionment with the state-led and centralized development emerged in India (Menon et al. 2007: 6). It was clear that it had not managed to eradicate poverty. In 1986, N.S. Jodha wrote a much cited article which documented the importance of common property resources for poor rural livelihoods in India. It showed how they constitute between 12-25% of the income of poor rural households in the form of access to fodder, firewood and nutritional input (Jodha 1986). The article illustrated the importance of common property resources for rural equity: the poor depend more on them for their livelihood than richer households, i.e. the poorer the household, the more important the access to these resources. However, it also documented that the access to common property resources is heavily in decline due to state policies and privatization - thus, exacerbating rural poverty. This text launched the beginning of second generation research in India where interest rose in the efficiency in local arrangements for resource use. A significant contribution hereto was Robert Wade's (1988) empirical account of the viability and efficiency of CBNRM in South India.

Similar to other second generation research, promoters of CBNRM in India drew on support from particular historical representations of 'community'. In the Indian case, such representations were delivered by the so-called (and so criticized) "*New Traditionalists*" (Sinha et al. 1997). These scholars present a historical account of pre-colonial Indian communities, which emphasized their ecologically balanced and socially harmonious NRM arrangements (Gadgil/Guha 1992: 91ff). These rosy representations of traditional rural communities sparked off much of the third generation research on Indian CBNRM systems. Here, it is widely accepted that local management systems did indeed decline during colonialism and the post-independence period, but they are critical towards re-calling indigenous systems as a template for future CBNRM systems. They point with particular force to the intra-communal conflict and structural inequity in indigenous Indian rural communities, which are often downplayed by "*New*

Traditionalists” (Beck/Nesmith 2001; Sinha et al. 1997). It is especially a critical gender perspective which is missing in idealized representations of pre-colonial Indian communities and their resource use arrangements (Agarwal 1998). Rather than revitalizing pre-colonial CBNRM models, these authors stress the importance of a forward-looking activist agenda, where poor and marginalized are empowered to re-negotiate equitable access and control over local CPRs (Beck/Nesmith 2001; Agarwal 1998). Negotiation power is important in order to act on different polity levels, but first and foremost to ensure equitable access and control through local level institutions:

“Our evidence...suggests that unless management regimes are specifically designed to include poor people, and particularly poor women, then ‘community’-based natural resource management may be externally supported control by elites.” (Beck/Smith 2001: 130)

A focus on local level heterogeneity takes into account the local dynamics of exclusion and contestation in Indian CBNRM systems. Changing laws of land tenure and increased commercialization have incited privatization and encroachment of common lands by the local rural elite and pressed the poorest even further to the margin of subsistence (Beck/Nesmith 2001; Jodha 1985).

Concerns for watershed management in India

Empirical studies reveal that the issues raised by third generation research are highly relevant for watershed development projects in India. Managing watershed development needs to address local level differentiation for one major reason: while it relies heavily on collective action for its success, watershed development projects also carry the risk of exacerbating local inequities and thus undermining the willingness of all community members to participate in collective action (Farrington et al. 1999: 64f; Kerr 2002). Hence, the success and institutional sustainability of watershed development hinges upon whether the distribution of decision-making power and bio-physical benefits is considered fair and equitable among the community members.

A major reason for why watershed development risks widening rural income gaps is that the bio-physical output such as improved soil moisture and increased ground- and surface

water levels is unevenly distributed in the landscape. The largest benefits are reaped by those who own the most fertile lands along the riverbeds (the so-called *nallahs*) in the lower slopes of a watershed where percolation accumulate and increased irrigation potential is created (Sangameswaran 2006). These lands are usually in the hands of the rural rich (Joy/Paranjape 2004: 74ff). Thus, although peasants with marginal lands and landless do benefit from increased availability of CPRs, these benefits are proportionately smaller (ibid.). Another reason is that costs of watershed development are disproportionately distributed to the disadvantage of the poorest. Rehabilitation of common lands is usually a core element of watershed development, which in most cases implies a temporary (or lasting) ban on grazing and other extractive activities from the village common lands (Sangameswaran 2006). Because the poorest and especially the women (Chen 1993), depend most heavily on the common lands for their livelihood, these groups also suffer most severely from a seclusion of the commons.

This dual dynamic of rural income differentiation is coupled with a difference in power positions. It is popularly known that access and control over assets are usually connected to a dominate power status (World Bank 2006: 21). Indian rural communities are stratified along caste- and gender lines with a strong coincidence between caste (and gender) affiliation and economic position (Tiwary 2004). Hence, the management of community-based watershed development is prone to be dominated and biased towards the interests of the rural rich, the male and upper caste communities. From this section follows that third generation research provides a useful entry-point for analyzing the management of watershed development in India.

3. THEORY

This chapter is divided into three sections. It builds on the literature review above but is an accurate presentation of the framework for analysis. In section one, I present the concepts of equity and inclusion that are applied in this paper and establish why they are central concerns when studying CBNRM. This section one partly answers my first research question. Section two clarifies how I understand institutions, which is the basis for answering my empirical research questions (RQ2-4). The chapter ends with a

presentation of the overall theoretical framework on how to understand the interrelationships between equity, inclusion and management of PWD.

3.1 EQUITY AND INCLUSION IN CBNRM

Defining equity

Equity and equality are fundamental concepts in philosophy and political thought. Whereas equality usually refers to outcomes, equity refers to processes. Because it has been easier to establish common grounds around the meaning and significance of equity than of equality, equity is a preferred standard of fairness in international policy making (WB 2006: 73ff). The World Bank defines equity this way:

“By equity we mean that individuals should have equal opportunities to pursue a life of their choosing and be spared from extreme deprivation in outcomes” (World Bank 2006: 2)

Compared to a fair outcome, a fair process can more easily be measured against universal principles of human rights. Equality is politically charged, because the definition of fair outcomes pre-conditions a political process where trade-offs must be made to the advantage of some groups and to the disadvantage of other (WB 2006: 20).

This paper is interested in equity of CBNRM arrangements and my definition of the term follows the World Bank above. It is important to note that it goes beyond a narrow procedural conception and implies the need for redistribution of resources to the extent that everyone has equal opportunities to unfold his or her human potential.

Justifications for equity

There are instrumental and normative arguments for considering equity in CBNRM general, and in PWD in particular. Instrumental preferences for equity can be found in the general global development discourse as well as in diverse niches of development theory and practice. At a global level the World Bank has argued that inequity is harmful to larger-scale economic efficiency, because it prevents large segments of a capable and productive population from unfolding its economic potential (WB 2006: 7ff). Instrumental arguments for equity are also found in Amartya Sen’s conception of

Development as Freedom (1999). Central to Sen's definition is the freedom of the individual to live "*a life one has reason to value*" (Sen 1999: 18). A number of instrumental freedoms pre-condition the realization of this "*substantial freedom*" (Ibid. 24). Amongst these are economic facilities and social opportunities (Ibid. 38f). Thus, according to Sen, promoting equity through the provision of equal opportunities is a fundamental aspect of any development undertaking, because social and economic deprivation hinders the exercise of personal freedom (Ibid. 3).

The instrumental value of equity applies to participatory watershed development regardless of how broad a development-definition one chooses to adopt. Promoting sustainable resource use and environmental rehabilitation through PWD requires a high degree of collective action and institutional stability (German/Taye 2008: 100, Kerr 2001: 1223). PWD is vulnerable to 'spoiling'-behavior by individuals, e.g. felling of trees or unlicensed grazing. Complicating collective action is that watershed development "*...by its own logic, often promotes inequitable outcomes*" (Joy/Paranjape 2004: 74). Inequitable sharing of benefits and costs can undermine collective action, institutional stability and sustainable resource use, because some members then may resort to non-cooperative and detrimental resource use behavior (Farrington et al. 1999: 64f). Thus, promoting equity is conducive to successful watershed development.

However, in many Indian villages the poor and marginalized cannot simply subvert collective decisions contrary to their interests due to the massive social and cultural sanctions that will be imposed on them (Kerr 2001: 1228). Thus, failure to pay attention to equity may not undermine the sustainability of natural resources use itself, but can be highly detrimental for the social and economic development of the poorest. As far as a watershed development project aims to promote general prosperity and development, attention to equity is an instrumental concern for obtaining PWD objectives.

There are also normative justifications for equity that can be found in most cultures all over the world, which are founded in moral, philosophical and often also religious rejections of deprivation (WB 2006: 76ff). The intrinsic value of equity in the

development discourse has been verbalized most significantly by Amartya Sen (1999). It follows from his normative approach elaborated above, that equity (equal opportunities to pursue a good life) preconditions the process of development itself and is linked to the intrinsic value of every individual life.

Defining inclusion in NRM

Inclusion refers to the participation of all user group members in the various aspects of NRM. Inclusion can be defined in a broad and in a narrow sense. In a narrow understanding, inclusive NRM refers to a proportionate representation of user groups in decision-making bodies. A broader understanding goes beyond nominal representation and includes empowerment of the weakest user groups to challenge the structure of the management system itself (Nelson/Wright 1995; Willams 2004). From this perspective, inclusion involves shifts in power (Nelson/Wright 1995: 1), which spills over on other aspects of communal life.

This paper adopts a broad definition of inclusion. It comprises two major elements. The first element is an *effective* representation of user groups, which include an organizational structure of the formal NRM-institutions that: a) is able to capture the views of all user constituencies; b) provides mechanisms for feed-back and c) widespread input from user constituencies (adopted from German/Taye 2008: 106). The second element is a systematic effort to build capacities among the marginalized. Effective participation in NRM is difficult for people with low capacities which often lead to dominance in decision-making by more apt and capable individuals (Cornwall 2004: 79). An important function of capacity-building is to endow weaker segments of society with bargaining power, which will enable them not only to obtain more favorable access to resources, but also to change the systemic factors that favor some groups over others in exercising control over NR (Agarwal 2001).

Justifications for inclusion in NRM

As in the case of equity, there are instrumental and normative justifications for inclusion in NRM in general, and in PWD in particular. Much of the instrumental arguments in favor of inclusive NRM stems from gender research, which has provided the most

elaborate and comprehensive evidence for exclusion's detrimental effects on sustainable environmental management (e.g. Pandofelli et al. 2008; Westermann et al. 2005). However, the problems linked to the exclusion of women in NRM can also be applied to other marginalized groups such as low caste and poor landless rural residents.

Inclusion has key instrumental value for any NRM-system which relies on collective action for sustainable resource use (Pandofelli et al. 2008: 7). For example, it has been shown in empirical studies that women's inclusion in NRM decision-making leads to greater compliance with NRM-rules (Sultana/Thompson 2008: 66; Zwartveen/Meinzen-Dick 1998: 21) and fewer conflicts between resource users (Sultana/Thompson 2008: 65; Agarwal 2001: 1637). Inclusion of women can strengthen cooperation and solidarity in a resource use community (Westermann et al. 2005). Inclusion is a means to improve collective action has been highlighted also in the case of PWD, where the compliance with e.g. grazing bans increases when marginalized segments are involved in the decision-making and their concerns discussed (Kerr 2002: 1390).

Another instrumental argument for inclusion is its positive effects on equity in resource access, e.g. by preventing "elite capture" of resource benefits (German/Taye 2008: 101) or by rising the status and empowering the marginalized groups to negotiate rules in their favor (Agarwal 2001: 1643). The instrumental value of equity has been elaborated above.

Finally, there is normative reasoning behind inclusion in NRM. It links to the definition of development presented by Amartya Sen as described above, which puts central value on individuals' capability to choose a life of one likes. Exerting influence on decisions that structure one's range of choice is part and parcel of individual freedom (Sen 1999: 16f). Doing so requires capacities that poor people are often deprived of (Ibid. 20). Hence, from a liberal human rights' perspective, the ability and capacity to participate in NRM is a value in itself "*...as a measure of citizenship and as a means of empowerment...*" (Agarwal 2001: 1624).

3.2 AN INSTITUTIONAL APPROACH TO CBNRM

In concordance with insights from latest research, this paper adopts a dynamic understanding of how NRM institutions work and change. From this perspective, Leach et al. (1999) provides a useful definition of institutions as “*regularized patterns of behavior between individuals and groups in society*” (Leach et al. 1999: 226). It is a definition that is less exact than Douglas North’s description of institutions as the formal and informal “*rules of the game in a society*” (North 1990: 3), but is more accommodating of institutions’ dynamic and flexible nature (Leach et al. 1999: 237). Rather than giving the impression that institutions determine human behavior in a one-way casual process, a dynamic definition recognizes the recursive relationship between agent and structure as elaborated above (Cleaver 2000: 362).

Multiple interests and human agency

This paper adopts a pluralistic and political understanding of how communities work by recognizing the multiple and competing interests at play in natural resource management (Agrawal/Gibson 1999). It recognizes that economic rationality is embedded in a particular social, cultural and historical context, which makes preferences less predictable than standard economic theory suggests (Cleaver 2000). As David Mosse puts it:

“I do not wish to suggest that common property resource use is other than the product of individual strategy and rational choice, but rather there has been a failure to take cognizance of the fact that such strategizing is mediated by institutions (concepts, meanings, values) which are constituted in culturally and historically specific ways” (Mosse 1997: 472)

Even though context and institutions influence the social behavior, this paper does not suggest that individual behavior in natural resource use is simply a function of existing local structures. Individuals can exert deliberate influence to change institutions – even if there are limits to how independent socially embedded creatures can think (Carlsson 2003: 55).

Institutions as 'negotiated relationships'

Combining a dynamic understanding of what institutions are, namely *regularized patterns of behavior* (Leach et al. 1999: 226) that are shaped by the interaction between individuals and institutions (Cleaver 2000: 362), with a political approach to community (Agrawal/Gibson 1999) leads me to a particular understanding of how NRM institutions work. On the one hand, institutions mediate the negotiation over resource access and control between heterogeneous and unequally positioned actors. Institutions thereby determine the distribution of resource access and control. On the other hand, institutions themselves are the outcome of a negotiation. Exercising influence over NRM institutions does not only increase the immediate access and control over resources, it also manifest who in the community is 'in right', e.g. to define legitimate rules in natural resource management (Mosse 1997: 481). In other words, institutions do not only determine negotiation outcomes; the process of negotiation itself reproduces and alters institutions.

Power and institutions

In a local community there are some actors with better negotiating capacities than other community members, e.g. in the form of physical assets or "*symbolic capital*" (Mosse 1999: 467, following Bourdieu 1977). Moreover, different groups in a community have different preferences for resource use (Leach et al. 1999: 238), which is particularly true for watershed development in India (Kerr 2002). Inequity and exclusion become relevant issues in CBNRM because powerful actors are in a better position not only to obtain better access to resources, but also to dominate the course of institutional change.

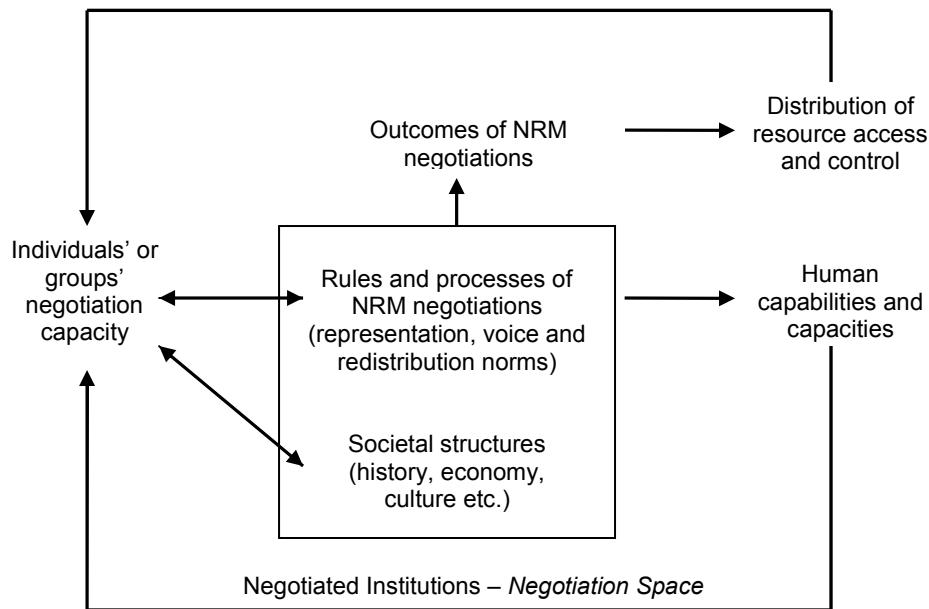
Promoting equity and inclusion in CBNRM implies a challenge to existing power structures. Concretely this means two things: first, to endow weaker segments with negotiating power in decision-making which regards the distribution of resources; second, to empower the marginalized to challenge the structure of negotiation (institutions) itself (Nelson/Wright 1995; Williams 2004). However, because institutions are embedded in their context, there is a limit to endogenous institutional change. An impetus for such change must come from outside, e.g. in a process where development

agencies challenge existing NRM-practices and re-opens the negotiation of access and control (Williams 2004: 94).

3.3. THEORETICAL FRAMEWORK

This section shall tie the ends together. Model I beneath illustrates how NRM institutions determine equity outcomes and inclusion performance, and vice-versa how equity and inclusion influence how institutions work and change. Model I then, is an operationalization of the theoretical discussions from above and *not* a theory in itself. The model will guide my empirical analysis of how institutions facilitate equitable and inclusive watershed management. Within this framework, I shall seek to identify key challenges for PWD

Model I – an illustration of theoretical framework



Author 2008

Institutions comprise societal structures and rules and process of NRM and make up the negotiation space (illustrated in frame). Groups and individuals participate in NRM by applying their negotiation capacity, i.e. their financial, social and cultural capital, to decision-making processes. The recursive arrows illustrate the dynamic relationship between institutions and individuals, i.e. how they mutually shape and alter one another.

It follows from the model that institutions shape the negotiation outcomes, i.e. the distribution of access to and control over resources. Having access and control in NRM feeds-back and strengthens the individual's or group's negotiation capacity. Further, whereas individual actors' capacities influence the process of negotiation, the negotiation process itself also impacts which actors gain and develop capacities and capabilities to exercise influence in NRM.

4. INTRODUCTION TO CASE STUDY AREA

4.1 THE LIVELIHOOD SITUATION IN RURAL RAJASTHAN

Rural livelihoods in Rajasthan are heavily reliant on a fragile and degrading natural resource base for their basic livelihood requirements (Vyas 2007). A combination of geo-physical, climatic, social and economic factors stress the need for water- and land restoration efforts such as PWD.

Geo-physical conditions

Water scarcity and land degradation is notorious in the semi-arid belt in southern Rajasthan where Udaipur district is located (Rathore 2007; Joshi 2007). Approximately 70% of cultivated land is rain-fed (UNDP/GoR 2002: 39), and the average rainfall is merely 900 mm per year (ibid: 41). Moreover, rainfall is concentrated on a few months of the year during the monsoon months from June to September (Joshi 2007: 78). There are reasons to believe that global climate change will worsen known drought phenomena in the region such as decreased soil moisture (due to evaporation), soil salification and falling water levels (Mall et al. 2006).

The Aravalli mountain range dominates the landscape in the Udaipur district. In rural areas, the hills form an uneven land pattern where the most fertile soils are located in the lower laying areas and the most degraded lands are situated in higher altitudes. Due to land reforms since independence, there has been a dramatic decline in forest and vegetation cover on the Aravalli hill slopes (Joshi 2007: 95), which has lead to increased soil erosion, decline in soil moisture levels and decreased availability of ground- and surface water.

Economic situation

Rajasthan has experienced a persistent stagnation in food grain productivity since 1991 (Sagar 2007: 212). 50% of all landholdings are marginal or small but make up only 10% of the total area under cultivation (UNDP/GoR 2002: 18). The inequality in land holdings is increasing due to encroachments of communal lands by rich and influential individuals (OIKOS/IIRR 2000: 199).

Rajasthan's fragile ecology results in a situation where the majority of agricultural rural residents are concerned more with subsistence than with actual income generation (UNDP/GoR 2002: 18). Degradation of the fragile natural resource base has led to a decline in the quality and availability of livelihood sustaining resources such as fodder, firewood, nutritional input and bio-mass for manufacturing and income generation (Rathore 2007).

Social backwardness

Rajasthan hosts a wide range of social problems in terms of population growth, low levels of education, poor health etc. (UNDP/GoR 2002). Rajasthan's social problems are aggravated by persistent caste-related oppression and atrocities, which are amongst the severest in India (Shah et al. 2007). Women are granted few individual rights; dowry and abortion of female fetuses are rampant practices across all social and cultural groups (UNDP/GoR 2002). The social problems emphasize the low capacities and the deprivation in rural areas, which complicates effective participation in PWD.

4.2 OWNERSHIP STRUCTURE OF NATURAL RESOURCES

In the pre-colonial period, land in Rajasthan was owned by the kings. Through a so-called *zamindari* system, local chieftains served as rent and revenue collectors in local areas. The so-called zamindars did not own the land, but they rigidly controlled the resource use in exchange for their remuneration from the kings (Metcalf/Metcalf 2006: 78). There were strongly enforced rules and sanctions in place for trespassing resource use rules (Jodha 1985: 253). During colonial rule, the British installed a legal structure for land ownership in India suited to their extractive interests for forest lands (Gadgil/Guha 1992),

but in *Rajputana* the kings continued to rule according to old regimes. It was not until after independence that the rule of the kings was dissolved and Rajasthan became a state in the federal democratic republic of India. The kings' massive land holdings were either distributed among landless peasants (through Gandhi's *bhoodan* movement) or nationalized and put under the control of public authorities at state and village level (Metcalf/Metcalf 2006: 244f). Unfortunately, and contrary to the intentions of Gandhi and Nehru did the reforms not amount into larger social equity (Ibid.). Rather, political patronage in the new political institutions supported the privatization and encroachment of common lands – a tendency still evident today (Beck/Nesmith 2001: 123).

In Rajasthan, publicly owned land falls under three legislative categories: revenue land belonging to the Revenue Department, forest land which falls under the jurisdiction of the State Forest Department, and village land managed by the *gram panchayat*. All three types of land function as commons although extractive use is regulated through different sets of rules. Seva Mandir's watershed development involves work on common lands.

4.3 SEVA MANDIR AND ITS WORK IN WATERSHED DEVELOPMENT

NGOs have a long tradition for spearheading development initiatives in India (Bhargava 2007: 260ff). In watershed development, NGOs have contributed significantly to implementation and policy development since the beginning of the 1980s and carry much of the honor for the shift towards a more holistic and participatory strategy (Farrington et al. 1997: 3).

Seva Mandir (SM) works to promote rural development. It undertakes a variety of development initiatives in areas of education, health, community-building and natural resource development. SM operates on the basis of three strategic pillars: 1) livelihood enhancement; 2) human capabilities; and 3) village institution-building. Watershed projects comprise all three elements. Watershed development, however, is rarely the first intervention that SM undertakes in a village. Rather, SM enters a new village by implementing a non-controversial social project such as the construction of a school or a day care center. These activities generate the trust and goodwill that is necessary for

initiating a watershed development project. After a period of sustained presence in a village, SM encourages the community members to establish a village development fund – a so-called *gram vikas kosh* (GVK) – and to elect a village development committee (a *gram vikas committee* - GVC) to manage it. The GVK can be used for different purposes. If the community opts for a watershed project, the GVK funds 10-20% of the project. Seva Mandir covers the rest. The GVK serves a community building and empowerment purpose, which helps to sustain commitments and ensure compliance with watershed rules. Currently, SM implements 56 watershed development projects in different parts of Udaipur district.

5. METHODOLOGY

My object of study is Seva Mandir's watershed development projects. It is not the intention to evaluate the performance of SM, but rather to identify key challenges for PWD in terms of equity and inclusion that can be of general relevance for the debate on CBNRM.

5.1 METHODS FOR DATA COLLECTION

I conducted my field work with exclusively qualitative methods. Common issues of validity and reliability generated with qualitative methods also apply to my research – as discussed below. Overall however, conducting qualitative interviews were an appropriate way to investigate sensitive and complex issues such as inequity and exclusion.

Selection of villages

My field work sites were selected purposively to meet the following criteria: 1) the existence of Seva Mandir's watershed development activities; 2) geographical proximity to Udaipur in order to limit logistical constraints; 3) the presence of a mixed composition of castes which could enable me to investigate the importance of informal institutions more easily. I collected data from the villages Pindoliya, Kaya Perwa, Ramaj and Kagamandara.

Respondents and interviews

My primary data consists of 28 semi-structured group and individual interviews with community members of four different villages (see table below) as well as 7 interviews with Seva Mandir staff from head quarter, block and zonal offices, which sums up to a dataset of 35 interviews. My secondary data is extracted from previous studies on watershed development projects in India and in Rajasthan in particular (Joy/Paranjape 2004; Kerr 2001 & 2002; Sangameswaran 2006; Farrington et al. 1999).

Table I

Name of village	GVC members		Non-GVC members	Total
	Individual	Group		
Pindoliya	3	1	7	11
Kaya Perwa		1	6	7
Ramaj	3		3	6
Kagmandara	1	1	2	4
Total	7	3	18	28

Among my village key-informants were members of the GVC, supplemented by a random sample of non-members. GVC members were the best suited to explain the management system of PWD in their village. These interviews were facilitated by a Seva Mandir contact person. Non-GVC members were chosen randomly through my walk through the village. I purposely sought to talk to women and members of seemingly poor households. The answers of non-GVC members were used for validation, i.e. probing the information from GVC members. All interviews followed interview guides (see appendix II).

SM staff was interviewed as key informants to understand the efforts and priorities of staff to enhance equity and inclusion in their PWD projects as well as their assessments of challenges and opportunities. Due to their familiarity in reflecting on the issues under my investigation, the interview guides contained more open questions (see appendix IIc). Whereas the interviews with the villagers were highly different in length and depth, the

sessions with staff members could follow the interview guide more predictably. Following each interview, I transcribed the information into a matrix that matched the indicators and interests of my interview guides (see appendix III).

Contacts

My field work was facilitated Seva Mandir and there were strengths and weaknesses connected to this approach. Firstly, it eased my entrance into the villages and shortened the process of report-building. Due to the limited time in the field, this amount of time saved was of utmost importance. Another advantage is that my findings may be of use for the villagers and SM and thus limits the extractive nature of development research (Scheyvens et al. 2003). But there were also problematic issues in being partnered with SM. An obvious limitation is the likely reluctance of my respondents to expose problems of inequitable benefit distribution and express dissatisfactions with decision-making processes. Further, long-term interaction with NGOs like Seva Mandir has accustomed villagers with an understanding of ‘correct’ or ‘good’ answers, i.e. made them aware of what traditional practices that are considered illegitimate. Obviously, my respondents did not want to risk any negative repercussions from SM by being too frank with me. Observations served to probe the information gathered, although, and due to language barrier, my observation material lacks information from informal talks with villagers.

5.2 INTERACTION BETWEEN EMPIRICAL DATA AND THEORETICAL POSITIONS

This paper pursues neither a strictly deductive nor a purely inductive method. Rather, it will seek to discuss empirical findings on the basis of a theoretical framework with a twofold ambition: one is to understand and organize the impressions and information gathered in the field in relation to insights from previous CBNRM research. The other ambition is to enter into a dialogue with theory and potentially advancing the understanding of challenges in CBNRM.

5.3 ETHICAL CONSIDERATIONS

Most ethical dilemmas of my research pertained to the choice of research focus. Studying inequality and exclusion in a social context to which I do not belong, can render culturally biased and illegitimate (Scheyvens/Leslie 2000). Colored by my cultural and

social background, I carry with me normative ideas about what a ‘fair’ level of distribution and participation is. These ideas do not harmonize well with a local social structure of my research area such as the caste system. Hence, the choice of my research focus is partly motivated by a personal normative agenda for change. Qualitative research proved to be a valuable way to address personal bias in the research process; it provided room for participation of the informants and forced me to remain open for new information and sensitized me to acknowledge specific local conditions. Further, the participation in interviews rendered an opportunity for my respondents to reflect on their situation and work and thus may have served an empowering purpose (Scheyvens et al. 2003).

The second ethical issue was my limited ability to avoid ‘development tourism’ (Chambers 1985). Due to logistical constraints I was not able to enter the field in the evenings where people would have had free time. Thus, I did not have the opportunity to conduct focus group discussions with PRA-methods and long in-depth interviews, which are essentially a more empowering and less extractive methods of qualitative research (Scheyvens et al. 2003). Further, because I could not enter the villages at night, I had limited opportunity to talk to women and members of very poor households who are busy during the day.

5.4 QUALITY OF PRIMARY DATA

Validity

Validity of social science and development studies in particular, is not a straight forward concept. In a narrow sense, validity is the degree, to which results measure what they are intended to measure. In a broader sense validity is the extent, to which a method is able to measure what it intends to measure (Kvale 1995: 3). In the broader sense, which is a product of post-modernist epistemology, validity subsequently relies on the recognition of a method by an epistemic community or the public at large. From this point of view, the validity of findings depends on the acknowledgement of other researchers and stakeholders, but also to what extent the findings are applicable to the daily life conditions of people (Bryman 2004: 29). In this paper, validity is applied in its broader

sense. By presenting and discussing the findings with Seva Mandir throughout data collection, I managed to establish a common understanding of key challenges of equity and inclusion in watershed management.

Whereas I collected information on how institutions facilitate equity and inclusion in watershed development, I did not collect data to measure the *actual impact* of these institutional arrangements on the community e.g. how mechanisms of re-distribution do (or do not) ensure equitable distribution of watershed development benefits. Thus, I could not validate my findings through triangulation of quantitative and qualitative methods (Mikkelsen 2004: 97). However, studying institutions compensate for this short-coming, because institutions determine the long-term dynamics of equity and inclusion, which are essentially more important than capturing information on the distribution of access and control in a snap-shot point in time (Leach et al. 1999: 234).

Reliability

I collected data from four watershed development sites which were diverse in their ecological, social and economic profile. However, common to all was the presence of different castes, very traditional division of gender roles and water distress. Hence, even though there were different patterns of land distribution and economic activities (e.g. due to different possibilities for migration, there was a difference between villages in how much the households' well-being depended on natural resources), the socio-cultural structure was quite similar. Because marginalization and poverty correlates to ones' socio-cultural status in rural Rajasthan (Shah et al. 2007), my findings on inclusion and equity may well apply to other villages in spite of different ecological and economic environments.

5.5 INDICATORS

The analysis of my empirical material is structured according to the analytical framework presented in section 3.3. Indicators are used to identify crucial institutional factors that shape the equity outcome and the inclusion performance of Seva Mandir's PWD.

In order to capture the equity issues in Seva Mandir’s watershed management, I was inspired Farrington et al. (1999: 66 and 118ff), who have identified a number of common biases against the poor and marginalized in watershed development. According to Farrington and his colleagues, there are four overall types of biases that skew the distribution of watershed development benefits; these are biases in investments, in the choice of technology, in the formation of financial, economic and human capital and finally in regard to gender concerns (ibid.). Inspired by this classification, I have developed the following indicators to measure the equity performance of SM’s watershed management.

Table II

Pro-poor investments	To what extent does the watershed management system seek to address investment biases such as: <ul style="list-style-type: none"> • Disproportionate share of water infrastructure investments benefit private lands • Over-emphasis on water harvesting structures likely to be useful for better off farmers in the lower slopes • Under-emphasis on soil and water harvesting measures in upper reaches
Distribution of financial capital	To what extent does the watershed management system seek to address financial capital formation biases such as <ul style="list-style-type: none"> • Opportunities for savings and credit favor the well-off • Employment opportunities by-pass the poorest and women
Biases in human capital development	To what extent does the watershed management system seek to address human capital formation biases such as <ul style="list-style-type: none"> • Failure to provide technical training to the poorest and most marginalized community members, hereunder women • failure to build up leadership and conflict resolution skills among the poor in water governance bodies, hereunder women
Norms of redistribution	To what extent does the watershed management system seek to re-distribute watershed benefits through measures such as <ul style="list-style-type: none"> • Income regulated cost sharing • Income regulated benefit sharing

Adopted from Farrington et al. 1999: 66 and 118ff

In order to capture inclusion issues in Seva Mandir’s watershed management, I adopted indicators with reference to the definition of effective representation by German and Taye (2008: 106). Further, I supplement their definition with a focus on capacity building efforts based on the insights that inclusion and participation require not only presence and representation, but also the capability to identify and voice ones concerns (Sen 1999: 16f).

Table III

Formal rules of representation	To what extent does the watershed management system ensure representation of all resource user groups <ul style="list-style-type: none"> • at village meetings • in elections for GVC
Measures for effective representation (German/Taye 2008: 106)	To what extent does the watershed management system ensure effective representation of all resource user groups in terms of <ul style="list-style-type: none"> • Structures and procedures that systematically capture the view of constituent resource user groups • Mechanisms for broader feed-back of decisions taken • Opportunities for wide-spread input
Conflict settlement	To what extent does the watershed management system ensure inclusive conflict settlement through <ul style="list-style-type: none"> • Participation of all groups in decisions that define appropriate sanctions for rules trespassing (Agarwal 2001: 1637)
Capacity-building for participation	To what extent does the watershed management system ensure that the poor and marginalized, hereunder women, have the capacity to participate through <ul style="list-style-type: none"> • Provision of technical training to the poorest and most marginalized community members • Leadership building

6. EQUITY AND INCLUSION IN WATERSHED MANAGEMENT

This chapter provides an analysis of my empirical data. The structure follows the logic of my theoretical framework presented in section 3.3. On that background, the aim is to provide an answer to my research questions with emphasis on identifying key challenges of equitable and inclusive community based watershed management, which may be of interest for the general debate on CBNRM. Please refer to appendix I for an overview of the reference coding.

6.1 INCLUSIVENESS OF SEVA MANDIR'S WATERSHED MANAGEMENT

In this section, I shall analyze the modes of inclusion in Seva Mandir's watershed management and how they relate to the unequal endowments, entitlements and capabilities within the villages. The analysis pays particular attention to the inclusion of the most marginalized groups, such as low caste and tribal groups as well as women.

SM's watershed projects are managed through the *gram vikas committee* (GVC). The GVC is responsible for the day-to-day decision-making and monitoring of the watershed project and other activities funded by the village development fund – the *gram vikas kosh* (GVK). Larger decisions regarding the planning of new initiatives, e.g. the construction of dams or plantation schemes on wastelands, are discussed and decided upon at the

village meeting – the *gram sabha*. Every household that pays into the GVK is a member and have the right to a vote and voice in the *gram sabha*.

The GVC is a representative body that administers the village-owned watershed project. The GVC represents the village vis-à-vis Seva Mandir and thereby acts as a gate keeper for communication of village preferences to the donor in the form of project proposals. It is responsible for implementation of project activities as well as for accounting and contracting in collaboration with SM field staff. It also administers the distribution of labor in watershed construction works. In other words, the GVC is - next to the *gram sabha* - a key institution of Seva Mandir's watershed management. Thus, GVC membership is a source of influence and control over resources. Moreover, it provides an opportunity for members to build up valuable leadership-, administration- and communication skills. How SM deals with this bias in favor of some community members is the interest of this chapter.

Formal rules of representation

A generally applied rule in Seva Mandir watershed projects is that all members of households that pay into the village fund are recognized as GVK-members, which means that a household can be represented by any household member in village meetings – man or woman, young or old. In all four villages, high attendance rates at village meetings were recorded – also for women who by local custom, are usually not recognized a public role (Mathur/Rajagopal 2006: 314ff). But what motivates the villagers to attend the meetings and to open up for participation of previously marginalized groups? In Pindoliya, the mere existence of a village forum for discussion was appreciated for its unifying effects on the community. An inhabitant of Pindoliya said that Seva Mandir had helped the community to foster unity by building a village platform for discussion and action (M-group, Pin). Another GVC member from Pindoliya attested that Seva Mandir had helped them understand their common problems better by gathering everyone at the village meeting (GVC A, Pin).

Other than its social function, inclusive participation at village meetings brings about very concrete livelihood advantages. Because watershed initiatives require the consent of all GVK members (i.e. all village households) SM demands that a project proposal is signed by all community members. Inclusiveness is, in this way, a precondition for aid delivery and potential livelihood enhancement. In Kagmandara, the deliberate absence from the village meeting is thus considered intolerable and leads to sanctioning such as threats of being excluded from access to labor (GVC-chair, Kag.). In this way there are efficient informal social pressures to bring community members together although no formal rules (e.g. compulsory attendance) are applied to secure representation at the village meeting. The large importance given to attendance has positive implications for women's participation. In villages such as Pindoliya and Kaya Perwa where urban migration is rampant among men, women become representatives of their household to the village meetings.

As opposed to village meetings, GVC membership follows from election. In general, however, there were no coherent rules of election and representation in the four GVCs visited. A senior SM staff member said that 50 % of the seats are reserved for women (SM staff E), but in none of the four case study villages this matched the reality. There were indeed female GVC members, but they were in minority. In Kagmandara there were no women in the GVC. In Ramaj, three out of twelve GVC-members were women and in Kaya Perwa, I was told that women can run for the GVC if their families approve, i.e. usually their family-in-law (villager B, Kaya). This poses an important constraint on the large number of women who live under strict limitations as daughters-in-law.

Whereas women are scarcely granted formal representation, men from lower castes and tribal groups were indeed among the prominent GVC members in Kagmandara, Ramaj and Pindoliya. This may be due to Seva Mandir's practice of targeting these groups for community mobilization at the outset of any development intervention in a new village (SM Staff E). The representation of these groups is certainly an important achievement towards securing inclusive watershed management. Interestingly, this success of marginalized social groups' representation lies not in the enforcement of quotas, but in

the systematic and long-term targeting of these groups for human capacity development as shall be discussed below.

Measures for effective representation

According to German and Taye (2006: 106), equitable and effective representation in watershed development requires a) structures and procedures that systematically capture the views of constituent resource user groups, b) mechanisms for feedback of decisions taken and c) subsequent opportunities for more widespread input. From this perspective it is striking to note, that the representation of lower castes and tribal groups in GVCs related more to their socio-cultural identity, than to their identity as a resource user group with particular interests. An indication hereof lies in the mode of conflict resolution, which draws in the traditional caste-based institutions of mediation. In Kaya Perwa for example, it was common to involve the elderly, the so-called *caste-panches*, to mediate in case of conflicts related to the watershed project (GVC group, Kaya). Another indication hereof is the situation of a low-caste respondent in Kagmandara, whose agricultural interests had not been considered in the watershed project although a representative from his caste had a strong voice in the GVC (villager B, Kag). The trenching and the construction of check dams for water harvesting had not increased the availability of water on his land. In fact, his and other households had not harvested any bio-physical benefits from the project (ibid.). Thus, it appears that not all members of the same caste have similar resource interests. When the mode of representation does not take this into account, it may lead to neglect of the interest of certain user groups. In other words, when the constituencies of GVC representatives fail to reflect the pattern of different resource user groups, it may exclude some resource users from voicing their concerns. Furthermore, it hampers the opportunities for effective flows of input and feed-back when the constituencies contain contradictory interests.

Women's role and mandate in GVCs accentuates the problem of effective representation. Not only are women under-represented in GVCs (despite their balanced representation at village meetings), their membership did also appear to be less valued than men's. In no instance were female members called for my group interviews with GVC members. In

Ramaj, the GVC chairman explained that only few women are members because they are illiterate and do not have time (GVC chair, Ramaj). However, most remarkable in regard to women's representation in GVCs is their perceived mandate. Women's membership is reasoned not in their role as representatives of a resource user group, but as beneficiaries from Seva Mandir's self-help groups (SHG) or child development initiatives (F-group, Pin). SHGs are an income-generating activity for women based on micro-loan schemes and is only indirectly linked to the resource conservation measures of watershed development. In this manner, the membership status of women in GVCs does not challenge the status of men as primary natural resource managers.

Further, the ineffective representation observed in the GVCs is not compensated by effective participation at village meetings. Despite high attendance rates at the monthly village meetings, there were only few conscious efforts to engage the silent crowd. A GVC member explained the reticence of some individuals by their shyness or their lack of interest in village matters (GVC B, Pin). Similarly, a SM staff stated people who do not participate are those who do not understand their personal benefits of the project. Only when they realize their personal benefit, he said, people will become active (SM staff D). These perceptions indicate that non-participation is conceived to be related to the lack of incentives rather than to socio-structural marginalization. Underestimating the structural mechanisms of social exclusion is highly problematic if the marginalized are to be systematically included in the process of decision-making (Cornwall 2004).

Capacity-building for participation

Human capacity to participate adds to the factors of effective representation as defined by German and Taye (2008: 106). It is well-known from research, that there is more to participation than the mere representation or presence of different interest groups in NRM institutions. Rather, there are different degrees and forms of participation (Pretty 1995: 1252). Some would say that participation is only truly empowering when marginalized groups become capable of challenging deeper lying societal structures (Nelson/Wright 1995). But even if the aim of inclusion is more modest than radical empowerment, it is obvious that substantial participation in watershed development does require certain

technical and human skills. To manage a fund, to write project proposals, or to monitor construction works and payrolls requires some level of literacy, planning skills and leadership abilities. In the case study area, only few individuals possess these capacities. SM therefore provides training areas of accounting, conflict resolution and other relevant management skills (SM staff E). This training is attended by GVC members only. In all four villages, there was a lack of a systematic rotation or group specific targeting of this training. Rather, the access to capacity building appeared to be arbitrarily distributed among GVC members. In Kaya Perwa, for example only people who are “willing and capable” go for training (GVC group, Kaya). The non-systematic way that human capacities are built has led to the accumulation of skills in a few already capable individuals. In Ramaj for instance, the chairman had thus been continuously re-elected since 1995, because he possesses the skills to write project proposals and has become familiar with Seva Mandir procedures and field staff (GVC chair, Ramaj). Similarly in Kagmandara, the GVC chairman stated that he had been re-elected since 1998 because he has developed good abilities to communicate with outsiders (GVC chair, Kag). Further, the training that was reserved for women related primarily to women’s activities such as family planning, child care and petty trade skills. Thus, training activities do not seek to challenge the role of men as primary resource managers.

In regard to leadership building, a part of SM’s entry point strategy is to identify and build local leadership from which development projects can be initiated and sustained (SM staff E). However, the leadership potential is usually identified from the existing pool of front figures in the villages. For instance, a SM field worker reported that elderly are always involved in the GVC because they are the best suited to represent the community (SM staff D). In Kagmandara and Ramaj, the GVC-chairmen explained that they were chosen because they have personalities of a leader, i.e. someone whose work people appreciate (GVC A, Kag) and who capable to communicate with outsiders (GVC-chair, Kag). Being educated was also mentioned as a qualification because accounting and proposal writing require some level of literacy (Ibid.). Relying on existing front figures seems to ensure institutional sustainability to the watershed development projects undertaken by Seva Mandir (in all four villages, the GVCs had a history of more than 15

years). However, by refraining from targeting the marginalized to become front figures in watershed management institutions, leadership building efforts do not challenge the status-quo distribution of power in the villages.

Conflict settlement

In all case study villages, disagreements at village meetings are settled by majority vote. The fact that a majority decision is not necessarily a pro-poor decision was given scant thought and social pressure is put on people who do not agree with the majority. In Kaya Perwa for example, the GVC members told that they generally avoid conflicts and prefer to persuade opponents. If no agreement can be reached, the elderly meet and take final a decision (GVC group, Kaya). Also in Ramaj, a GVC member reported that disagreements are tackled by making opponents “understand better” (GVC B, Ramaj). The informal way in which conflicts are dealt with was underlined by statements from SM staff. So did a senior staff member state that Seva Mandir respects village rules by relying on traditional authorities such as the village elders or GVC members (SM staff F). Relying on local traditional mechanisms of conflict mediation may generate trust in the decision-making. Again, however, the outcomes may not necessarily be pro-poor or empowering of the marginalized.

Sum-up

In this section, I investigated the institutional mechanisms that facilitate and obstruct inclusion in Seva Mandir’s watershed management. Based on information and observations from the case study villages, I obtained a number of interesting findings that may indicate important challenges in ensuring inclusive watershed management.

An important finding is the lack of efforts to promote effective representation in watershed management. One aspect hereof is that the lack of active participation of some groups is popularly perceived to be a function of limited incentives rather than as an expression of oppressing structures. This perception seems to have limited the proactive measures to promote actual participation of these groups. Another aspect of ineffective inclusion applies to the participation of women. Although women do participate quite extensively in the *gram sabha*, women’s mandate for participation in village institutions

relates more to their role as domestic workers rather than as resource users. As long as women do not participate in their role as resource users and managers, their mere presence at village meetings is not alone likely to grant them an actual voice in watershed management.

A second important finding is that the most important institutions in SM's watershed development, the GVCs, are under dominance of capable, strong and male members. This situation may be explained by the lack of visible resource user constituencies to whom the GVC members are accountable. Instead, the memberships reflect the composition of socio-cultural groups in a community. Whereas the dominance of customary local leaders in GVCs has granted a great institutional stability to the watershed management, it has not paved the way for widespread empowerment of marginalized groups in the community. On the contrary, the way leadership is identified and built leads to an accumulation of skills and capacities in a few already apt individuals. Hence, it is unlikely that former marginalized individuals and households can be included effectively into the watershed management institutions over time.

6.2 EQUITABLE DISTRIBUTION OF SEVA MANDIR'S WATERSHED BENEFITS

In this section, I turn to the distributional arrangements in Seva Mandir's watershed management regime. As elaborated above, watershed development tend to favor those already well-off and to exacerbate rural income inequalities. Thus, I shall analyze the institutional efforts in SM's watershed management to promote equitable development outcomes. In line with the indicators identified by Farrington et al (1999: 66), the concern for pro-poor watershed development pertains not only to the equitable (re-)distribution of economic and financial benefits, but also to pro-poor investment, employment and human capital building.

Pro-poor investments?

In SM's watershed projects, the largest investment costs goes to the construction of larger dams (so-called *anicuts*), check-dams and plantation schemes. Out of these, anicuts attract the largest single-unit investments of around 3-400.000 Rupees (ca. US\$9000) per construction. Anicuts are constructed at the lower slopes where run-off water

accumulates. They bring about immense benefits for farmers with fields in its immediate surrounding by raising the level of ground- and surface water significantly in the lower altitude fields; it leads to an increased irrigation potential and improved water availability for domestic and husbandry purposes. Whereas anicuts, thus, directly benefit private land holders with fields close to the waterbeds, check-dams and plantations are typical measures to rehabilitate common lands and the less fertile private lands in the upper reaches of a watershed. The single-unit cost for check-dam construction and plantation is low because they require less technical and engineering expertise and limited import of materials. Similarly, the construction of farm ponds, which are also an important measure of watershed development, implies only costs for labor and simple tools. It follows that the least cost-intensive investments are those benefiting the poorest, whereas the most cost-intensive investments benefit the better-off. Thus, the budget dispositions are implicitly skewed in favor of the better off households. The question is then if there are institutional mechanisms to compensate for this inherent imbalance?

There was a widespread recognition of the equity issue among different respondents. However, most had only vague ideas of how to address it and seemed largely willing to accept it. A field worker stated that inequality is inevitable as long as water flows downwards and water accumulates in the valley. Seva Mandir, I was told, can do nothing to change these physical conditions (SM staff A). Another senior member of staff explained that unequal distribution of assets is a natural part of the local economy, which cannot be changed by Seva Mandir (SM staff F; 4/12). This acceptance of a difference in the initial natural endowment base may have led to a tolerance towards the inequitable distribution of watershed project benefits, which was observed among some village members. A GVC member from Pindoliya, who did not personally benefit from the village anicut, acknowledged that those households close to the riverbeds benefit substantially more than other households in the village. However, he stated, this was not a source of conflict in their village (GVC A, Pin). Along the same line, the GVC chairman in Ramaj stated that all households benefit equally, although those with larger fields get more outcome (GVC-chair, Ramaj). A villager from Kagmandara said that all households benefit equally even though Bhils (a tribal group) cannot access the

groundwater reserves as long as they do not have wells in their fields (villager A, Kag.). All in all, I encountered no explicit strategy, nor any concrete suggestions on how to counterbalance the skewed distribution.

The finding that there is relativistic perception of equity, i.e. equity in relation to initial endowments is supported by statements from SM staff who repeatedly stressed the *relative gains* of poor households. This reasoning followed the logic that 100 kg of extra grass is better than 0 kg even if this outcome is proportionately smaller than what other households gain. (SM staff F). Further, it was emphasized by the same respondent that the poorest benefit from access to schools and day-care centers like other more well-off households (Ibid.). This assessment was shared by the GVC chairman in Ramaj who said that even landless people at least get access to sufficient drinking water through the project (GVC-chair, Ramaj). The examples show how the strengthening of more well-off households' initial resource endowment base is justified with reference to the benefits that the poor enjoy from other activities – even if these benefits are proportionately smaller. The equity problem, thus, lays in the relative distribution of gains and in the risk of exacerbated disparity over time. If it is accepted that households can only derive an amount of benefit that is relative to their initial endowment base, there is a risk that tolerance towards inequality becomes institutionalized, i.e. that no institutional mechanisms are developed to level the proportionately unequal distribution of resource outcomes.

This risk is accentuated by the narrow criteria for 'efficient investment' that are applied in SM's watershed management. Generally, the feasibility of SM's watershed investments is measured against the *number* of estimated beneficiaries, rather than the *type* or *identity* of beneficiaries (SM staff C). For instance, income level of beneficiaries was not once mentioned by respondents as an efficiency criterion. This indicates that there is no explicit prioritization of the poorest in investment decisions. For instance, in Kaya Perwa where there had been talks of installing a pumping system and high placed ponds order to bring water to the upper reaches (villager B, Kaya). However, these plans had been given up on the grounds that such investments would be too high compared to

the number of beneficiaries. A staff member stated that lift-systems must be efficient, i.e. that costs should be proportionate to the number of people that benefit (SM staff C). In Ramaj, two women informed me that the construction of ponds in the upper-lying fields had been rejected by the majority who could not see the need for work on marginal lands on whom a few poor families depend (villager A, Ramaj).

An obvious reason for applying cost-benefit considerations are resource constraints, to which Seva Mandir is also subject (SM staff A). Resource constraints, however, are notorious for most development projects. What seem to be forgotten is that cost-efficiency is a relative measure which is dependent on the optimum-criteria set by a project. What did not seem to be considered thoroughly, is that cost efficiency may not necessarily be pro-poor; although the selection of a site may benefit the majority, it may not benefit the poorest. To focus on the number rather than the type of beneficiaries indicates that there is certain blindness to equity concerns in Seva Mandir's watershed management.

In addition to the lack of attention to landless or farmers with poor lands, the interests of women are also not explicitly reflected in the immediate watershed investments. For instance, only in Kaya Perwa the watershed infrastructure included the construction of wells for domestic use. On the other hand, rehabilitation of common lands is a budget priority that will indeed benefit primarily women in the long run through an increased availability of fuel and fodder (Chen 1993).

Distribution of financial capital

There are two main opportunities for generating financial capital in SM's watershed development projects. One is the micro-credit and income generation scheme and the other is access to labor in the construction works. The micro-credit and income generation scheme is reserved for women. In all the four case study villages, a number of self-help groups had been established to facilitate women's savings and support petty investments into income generating activities. They included members from both poor and better-off households. Through SHGs, the women get opportunities to invest in goats

or to become shareholder in a fish pond for commercial sale in urban areas. The flag-ship of SM's income generation activities for women is a handicraft-cooperative called *Sadna*, which has grown into a commercial success on the tourist souvenir market in Udaipur. These activities do reflect a conscious equity agenda in favor of women, although they are scarcely linked to the watershed intervention as such.

The other opportunity to generate cash income through SM's watershed development is by getting access to paid labor. As a principle, there is a rotation system in place where a member of every household is entitled to 15 days of paid labor (SM staff C). According to SM staff there is some flexibility in favor of the poor in this system, which stems from the natural social concern for the poorest in the communities (SM staff D). However, information on how and under what conditions the poorest are considered in terms of labor at watershed construction sites was not uniform. In Pindoliya and Ramaj, the GVC can indeed choose to regard certain families with more days than they are entitled to (M-group, Pin and GVC-chair, Ramaj). However, in Kaya Perwa and Kagmandara there were no such special arrangements. In Kaya Perwa, every household gets equal amount of labor (villager D, Kaya); In Kagmandara, the GVC chairman said that labor is recruited among people who are hardworking, honest, sober and educated (GVC A, Kag). Another man reported that even if Bhils are poor they do not get more work than others. Everyone "gets equally" he stated (villager A, Kag). Regardless if the poorest are prioritized in recruitment or not the arrangements base on informal rather than on formal arrangements, which explains the variation between villages.

Also women do not enjoy formal preference for labor. Nevertheless, women were observed to be in vast majority at the construction sites. Whether or not they can decide upon the spending of that money remains a household matter and thus, must likely, subject to male decision-making (Joy/Paranjape 2004: 85).

Biases in human capital development

As elaborated above, there are a number of training possibilities connected to SM's watershed development projects. It was also shown that this training and leadership

building primarily targets the GVC members. Their comparatively high degree of self-confidence and elaborate abilities indicates that these individuals benefit tremendously here from.

Seva Mandir encourages the GVC-members to pass on their insights at the monthly village meetings. According to a GVC-member in Pindoliya, this indeed happens in their village (GVC B, Pin). Like other arrangements though, the rules of knowledge-sharing are highly informal nature and not subject to explicit responsibility. Thus, the success will depend on the willingness and interest of the GVC members to pass on their skills. The lack of systematic rotation and institutionalized mechanisms for knowledge-sharing can explain why there has been an accumulation of skills in few individuals who have become irreplaceable members of watershed institutions (see above). These individuals are, as found above, usually the already apt, vocal and leadership minded community members and there seem to be few targeted efforts to breed leadership and build human capital among the marginalized and silent.

Women are targeted for training but primarily on ‘women’s issues’ such as child care, health, SHG-related issues etc. Hence, the efforts for capacity-building of women do not seem to challenge the existing division of responsibilities and the perceived distribution of knowledge in natural resource management.

Norms of re-distribution

Above I concentrated on the equity arrangements on the input side, i.e. efforts to balance investments in economic and human capital. In the sub-section on financial capital building, I briefly touched upon the equity arrangements on the output side, i.e. the distribution norms of additional income opportunities. This sub-section adds to the analysis of such institutionalized efforts to redistribute on the output side.

When it comes to cost-sharing, there is a formalized mechanism for progressive re-distribution in place in all case study villages. If the rehabilitation of degraded lands include work on private holdings, the owner must pay a sum into the village fund which

is proportionate to the extra benefit he enjoys (SM staff E). Thereby, this person contributes both to village development initiatives and to the improvement of the ecosystem in exchange for personal livelihood enhancement. Individual contributions for rehabilitation of common lands, on the other hand, are smaller both in absolute and in relative terms (ibid.).

Whereas distributional equity of cost-sharing is institutionalized in a formal manner, the arrangements are much less explicit when it comes to the redistribution of the common-pool assets that are generated through a watershed development project, e.g. water, fodder and fuel wood. For instance, in no village there was a formal threshold of grass-cutting that correlated with the household incomes. All special privileges for grass-cutting were negotiated locally and informally according to the perceived needs of a particular household. By relying on the informal institutions in this manner, Seva Mandir invests significant confidence in the practice of social responsibility in the communities: “*We hope that the GVK funds will be used to benefit the poorest*” (SM staff F). Field workers monitor the decision-making processes in the GVC and at village meetings and report issues to the head quarter. To this date, SM did not judge any village community “*mature*” enough to manage its affairs equitably (hereunder watershed development) without this kind of external monitoring (SM staff E). It is in light of this meager confidence in GVCs managerial maturity that the lack of formal norms of re-distribution among households seems striking.

Before painting the picture too simplistic, it should be mentioned that SM’s watershed development does expose a *general* strategy for re-distribution in favor of the poorest: any watershed development begins with the identification of common lands and the patterns of private encroachments. An effort to vacant encroached land goes prior to any investments and concrete watershed initiatives (SM staff D). The reclaiming of common lands is indisputable a pro-poor distributive element in SM’s watershed management system. In this way, a general agenda for redistribution exists. What do not exist are norms that grant individual households equitable access to the common-pool resources.

Sum-up

In this section, I investigated the institutional mechanisms that facilitate and obstruct equity in SM's watershed management. The aim is to identify key challenges in ensuring equitable watershed management.

A major finding is the clear difference between the institutional arrangements to promote cost-sharing and those that promote benefit-sharing. When it comes to cost-sharing, a formalized system of graduated payments is in place. However, when it comes to favoring the poorest in terms of benefits (assets and opportunities), there are only few formal strategies in place. One is the general strategy of reclaiming the commons through disencroachment efforts. Most arrangements, however, rely on informal negotiations and on the social responsibility of village leaders. This is especially the case for distribution of labor and human capital building. Although such systems can indeed bring about pro-poor watershed development outcomes, the lack of formal rules and guidelines also brings certain arbitrariness to the equity arrangements; i.e. there is no guarantee that the interests of the poorest and most marginalized are attended to in a trade-off situation. Although this study does not investigate thoroughly whether the informal nature of benefit sharing arrangements does indeed lead to a by-passing of the poorest, interviews with poorest households did bring indications of such potential problems forth. For instance, the brief information gathered from a low-caste inhabitant of Kagmandara who had not experienced any significant livelihood improvements nor participated in watershed management (villager B, Kag). The few examples cannot testify rampant equity issues, but it can indicate that equity concerns are relevant and may be of a larger scale.

A second major finding is that investment decisions are crucial, but also the most challenging task for ensuring equity in watershed development. When budget dispositions are skewed in favor of the well-off, it becomes important to include pro-poor concerns in investment decisions. This was not the case in the case study villages where utilitarian (number of beneficiaries) takes precedence over pro-poor efficiency criteria. In this way, the existing tolerance towards unequal endowment base risks to be transferred

into the watershed management and lead to an institutionalized acceptance of the inequitable distribution of watershed development benefits. Indications of such tendencies were found above.

6.3 EQUITY, INCLUSION AND INSTITUTIONAL CHANGE THROUGH PWD

Based on the findings from above, this section presents a discussion of how negotiation capacities among community users are affected by SM's watershed management structure. Further, I will discuss how these impacts may (re-)configure social dynamics and institutional change in future. Thereby, I seek to illustrate the long-term relevance of inclusion and equity concerns for CBNRM, as well as the challenges it implies to pay due attention to these factors.

Inclusion and negotiation capacity

It was shown above that participation in watershed management has a number of advantages for those who participate actively - especially when it comes to development of management abilities. The issue to be attended to in this sub-section is how the modes of inclusion in Seva Mandir's watershed management impact the distribution of negotiation capacities in my case study communities.

In the theory chapter, I outlined the importance of negotiation power in natural resource management, which follows from the assumption that watershed development communities host diverging resource use interests and an unequal distribution of power. The participation of the poorest and marginalized is not merely a question of having an actual say in watershed decisions, but to obtain "*political capabilities*" (Williams 2004: 95) to challenge and alter the structures of watershed management itself and promote empowerment beyond NRM (ibid.).

Let us begin with the women. The high attendance rates in the *gram sabha* in combination with the rampant out-migration of men to urban areas have opened the floor for female presence in village level institutions. The increasing acceptance of their presence (GVC A, Ramaj) will increase their awareness of public matters and have paved the way for female representation in decision-making bodies, such as the GVC.

Tendencies in this regard were evident, e.g. by the membership of a few women in GVCs and their vast presence at village meetings. However, three factors showed that women are yet ineffectively represented in watershed management: first, women were underrepresented in GVCs; second, their mandate did not relate to their role as resource users; and third, training for watershed management by-passes women. When women are not recognized as a natural resource interest group nor able to act as such, they are not likely to be entitled to specific consideration in natural resource negotiations. Hence, the lack of effective representation hampers the opportunity to obtain extra negotiation capacity through watershed management – at least in the short run. The acceptance of women's presence and participation in village institutions may pave the way for longer term institutional change such as gender equality in NRM. However, the lack of provisions for effective representation of women is a hindrance for enhancing this potential.

Ineffective representation of all resource user groups pertain to the inclusion of other marginalized groups, such as low-caste and poor male farmers. Although some low-caste or tribal group individuals have obtained influence and negotiation capacity through their appointment as leaders and resource management authorities, this has not led to an increased negotiation capacity of all resource user constituencies. A reason here for, as suggested above, is that resource user groups are not necessarily divided along the same lines as socio-cultural groups. SM's watershed management may in this way create new gaps of negotiation capacity rather than bridging old ones. Aggravating the risk of an increased negotiation capacity gap is the laissez-faire approach to participation which was exposed through the respondents' perceptions of why some people fail to raise their voice. Rather than perceiving their silence as an expression of marginalization, their absence was commonly understood to be a consequence of lacking will or interest. This failure to recognize the structural dynamics of exclusion is expressed in the failure to target the poorest for capacity building. The resulting skills-gap will inevitably lead to greater disparities in negotiation capacities and thus, to an institutionalization of new inequalities within and beyond watershed management.

Equity and negotiation capacity

The crucial issue to be addressed here is how the access to watershed benefits may influence the negotiation capacity of groups and individuals, i.e. their ability to secure or improve their resource access in the future. On the basis of the theoretical framework, it is argued that distribution of costs and benefits from watershed development impact the distribution of negotiation capacity among resource users.

The data material indicates that the skewed budgetary dispositions have an effect on the individuals' stake in watershed management: those who benefit the most take more interest in watershed development projects. Conversely, with more interest and influence these individuals are able to increase their say in watershed management institutions. Evidence here fore is that the GVC chairmen in all four villages were among those who benefited most directly from the *anicut* constructions by having fields adjacent to the riverbeds.

SM's watershed development initiatives have increased the difference in human capital among community members in the form of management and leadership skills. This has increased the difference in negotiation capacities between groups. Managerial insight, contact with SM and other external actors have provided the GVC-members, and especially the GVC-chairmen, with a generally accepted authority, which could be observed by the continuous re-election of the same people to leadership posts. Further, the accumulation of skills in a few influential actors is likely to decrease the opportunity for other members to demand accountability and transparency – especially when the general level of capabilities is low. Although the human capacity development has surely led to some degree of social change (that lower caste and tribal groups have become recognized as resource management authorities) this change does not seem to pertain to entire groups of marginalized people. Hence, rather than leveling the negotiation capacity of different groups and individuals, new patterns of difference have emerged.

Sum-up

Bottom-line is that some individuals participate more than others in Seva Mandir's watershed management. Some of these individuals have also reaped more benefits from SM's watershed development projects. These factors have increased the difference in negotiation capacities among community members. As long as SM monitors the decision-making process, it is unlikely that it will amount into severe differences in resource access. However, because there are few efforts to balance the level of human capacities and because there are limited attempts to prevent that tolerance towards inequality is cemented through watershed management, a potential for institutional change that will exacerbate inequity and exclusion does exist.

CONCLUDING REMARKS

This paper aimed at identifying key challenges of equity and inclusion in community based watershed development management. Furthermore, my ambition was to generate findings that are relevant to research beyond the case of watershed development, i.e. community based natural resource management in general.

Through a categorized histographic overview of the scholarly debate on CBNRM, I illustrated the bearing of equity and inclusion as major concerns for successful CBNRM. However, empirical research suggests that equity and inclusion are no easy priorities in natural resource management because resource use interests of different actors often contradict one another. This schism was the entry point for my investigation. For a study that aims to identify key challenges in ensuring equitable and inclusive CBNRM, participatory watershed development is a particularly illustrative case. Whereas watershed development depends heavily on collective action and institutional stability for its success, it also inhabits the risk of exacerbating local inequalities and thereby to undermine the basis for collective action. This paradox directs attention to local level heterogeneity and micro-politics; it highlights the need of watershed management institutions to address the challenges of distributional equity and effective inclusion.

FINDINGS AND LESSONS LEARNED

In the empirical analysis, I applied different indicators generated from literature to identify issues of equity and inclusion. Most significant in relation to inclusion was the problem of representation. Although attendance rates at village meetings were high and the GVC-members had been fairly elected, I found that the watershed management institutions did not *effectively* represent all community members. Some groups and individuals remained side-lined in the watershed management. This, I discussed, is likely to have detrimental implications for their ability to influence both the decision-making process and the institutional structure of natural resource management in the future. Furthermore, capacity building efforts of the watershed development projects had failed to expand the potential for broader inclusion in the future, e.g. by ensuring rotation on influential posts. Instead, skills and capabilities had accumulated in a few individuals and created a situation where the GVCs were under dominance of capable male members.

A lesson learned for CBNRM is that there may be a potential trade-off between institutional stability (which is guaranteed by the veterans) and the opportunity to include the marginalized community members in NRM institutions. Moreover, the proportions of this trade-off are likely to grow over time, i.e. by making it more costly, in terms of elite resistance, to shift to more pro-marginalized management. Hence, opting for inclusive CBNRM may require a braver attempt to challenge existing patterns of local decision-making from the outset of a CBNRM development intervention. My findings thus, support the view that participatory practices must take a more radical form and aspire to evoke fundamental transformation in local level decision-making processes. Only this way can “*participatory methods...transform the business-as-usual patterns of domination*” (Cornwall 2004: 86).

In regard to equity, I found that the reliance on informal arrangements to distribute watershed development benefits such as financial and human capital had brought certain arbitrariness to the equity arrangements. That informal mechanisms for ensuring equity may not ensure adequate efforts of re-distribution was indicated by the respondents’

wide-spread tolerance towards inequitable distribution of watershed investments and development benefits.

In this paper it was argued that equity is not only important for livelihood enhancement purposes but also for strengthening of stake and voice of marginalized groups in watershed management. Unfortunately, the findings indicate that the limited will to prioritize the poorest in watershed development investments underpins the dominance of better-off individuals in watershed management. Hence, the lesson learned for CBNRM is that redistributive mechanisms go hand-in-hand with inclusion of the most marginalized.

CRITICAL SELF-REFLECTION

This paper applied a specific perspective, which left important elements of reality unacknowledged. Thus, I feel the need to state my own critique of the work above and suggest the reach of my conclusions.

Firstly, by searching for *challenges*, the paper exhibits a negative approach. Positive accounts of Seva Mandir's intervention, e.g. comparisons of livelihood situations from before and after SM launched its development interventions, were left aside. Therefore, my paper does not paint the full picture of SM's impact on my case study communities. Hence, rather than making general conclusions about the worth of SM's work, I aim to incite more conscious considerations of fairness issues in NRM development practice.

Secondly, my standards for fairness in terms of equity and inclusion are not objective and surely different from the perceptions of my respondents. Conducting normative research poses important ethical considerations, which I have dealt with by applying indicators generated from regional studies. The elements of subjectivity that remain, count as a contribution to the political (not merely academic) debate on ethics in participatory development.

Thirdly, questions of general relevancy and generalizability apply to the findings of this paper. My case study villages are particular in their social, economic and ecological environment and Seva Mandir is only one NGO out of hundreds in India. Thus, instead of claiming universal validity of my findings, I rather aspire to provide concrete examples that can serve as inspiration when evaluating CBNRM projects in future.

LOOKING AHEAD

India is in a process of rapid macro-economic growth. However, the rural masses have not enjoyed much benefit of this development. Rajasthan is one of the poorest and socially backward states in India. It hosts a rapidly growing population out of which the majority relies on natural resources for their livelihood. These natural resources are under pressure from ecological degradation. Watershed development is a promising strategy to address a wide range of rural poverty issues in this region and Seva Mandir has taken a vital responsibility in this regard, otherwise neglected by the state. Seva Mandir has adopted a community-based participatory approach, whose viability and efficiency has been proved. The future challenge for Seva Mandir and other NGOs is to get practical when it comes to incorporating insights from contemporary research on CBNRM. Most important in this regard is to address more directly issues of power in local level management of natural resource and thereby to optimize efforts to ensure equitable and inclusive rural development.

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APPENDIX I – LIST OF RESPONDENTS

No	Respondent	Interview date, place	Reference code
1	Two SM field workers (M+F), Girwa Block	23. November, Kaya Perwa	SM staff A
2	SM engineer (M), Girwa Block	27. November, Udaipur	SM staff B
3	Field coordinator, Girwa Block	1. December, Udaipur	SM staff C
4	Livelihood field worker, Girwa Block	1. December, Udaipur	SM staff D
5	Head of SM's <i>Gram Vikas Kosh</i> Section	4. December, Udaipur	SM staff E
6	SM's chief engineer	4. December, Udaipur	SM staff F
7	Two SM field workers (M), Badgaon Block	5. December, Kagmandara	SM staff G
8	Women group interview, 7 participants. Different castes	15. November, Pindoliya	F-Group, Pin
9	Men group interview, 6 participants. All Rajput (upper caste)	15. November, Pindoliya	M-Group, Pin
10	GVC member and wardpanch (M). Borifallah. Meena (tribal)	17. November, Pindoliya	GVC A, Pin
11	Man and woman. Non-GVC member. Inhabitants of poor Borifallah hamlet	17. November, Pindoliya	Villager A, Pin
12	Woman, Belwari attendant. Daughter-in-law of village	17. November, Pindoliya	Villager B, Pin
13	Man, non-GVC member. Borifallah	17. November, Pindoliya	Villager C, Pin
14	Woman, non-GVC member, Borifallah	17. November, Pindoliya	Villager D, Pin
15	Ex-panchayat sarpanch	20. November, Pindoliya	Sarpanch, Pin
16	GVC-chairman and wardpanch, Ambarkafallah. Bhil (tribal)	20. November, Pindoliya	CVC-chair, Pin
17	GVC-vice chairman, Rajput	20. November, Pindoliya	GVC B, Pin
18	Group (F+M). Non-members. Ambarkafallah	20. November, Pindoliya	Villager E, Pin
19	GVC chairman + four members (M)	22. November, Kaya Perwa	GVC group, Kaya
20	Non-GVC member (M)	22. November, Kaya Perwa	Villager A, Kaya
21	Two ex-GVC members (M). Rajput	22. November, Kaya Perwa	Villager B, Kaya
22	Sarpanch of gram panchayat (M)	25. November, Kaya Perwa	Sarpanch, Kaya
23	Non-GVC member (M)	25. November, Kaya Perwa	Villager C, Kaya
24	Two non-members (F)	25. November, Kaya Perwa	Villager D, Kaya
25	Two non-members (M+F)	25. November, Kaya	Villager E, Kaya

		Perwa	
26	GVC chairman (M)	30. November, Ramaj	GVC-chair, Ramaj
27	Two non-members (F)	30. November, Ramaj	Villager A, Ramaj
28	GVC member (M), Kerifallah	30. November, Ramaj	GVC A, Ramaj
29	Two non-GVC members (F+M)	30. November, Ramaj	Villager B, Ramaj
30	GVC-member (M)	30. November, Ramaj	GVC B, Ramaj
31	GVC-secretary (M)	30. November, Ramaj	GVC C, Ramaj
32	GVC-member, Bhil (tribal)	5. December, Kagmandara	GVC A, Kag
33	GVC chairman, Rajput	5. December, Kagmandara	GVC chair, Kag
34	Non-GVC member, Rajput	5. December, Kagmandara	Villager A, Kag
35	Non-GVC member, Bhil	5. December, Kagmandara	Villager B, Kag

APPENDIX II – INTERVIEW GUIDES

A. INTERVIEW GUIDE FOR GRAM VIKAS COMMITTEE MEMBERS (GROUPS AND INDIVIDUALS)

Issue	Motivation	Question
Resource distribution	Identifying how water infrastructure is distributed across hamlets	<ol style="list-style-type: none"> 1) Where are the major watershed-constructions situated? What is the number of check dams in each hamlet? Indicate the areas with major tree plantation. 2) What are the major constructions? Why are they placed where they are?
Institutional provisions to ensure equitable access to the benefits of water structures	<p>Detecting the awareness of inequity as an issue and the strategies that have or have not been developed to address it</p> <p>Testing for investment bias</p>	<ol style="list-style-type: none"> 3) When it the site of the anicuts and check dams where selected, did you consider that some households would benefit more? <p>If yes, what can be done to ensure that people in upper reaches / far from the nallah also benefit? What have you done? What are the difficulties in ensuring that everyone benefits?</p> <p>If no, is it possible to ensure that those far from the nallah receive benefits? What can be done? What have you done?</p>
	Testing for economic and capital formation bias	<ol style="list-style-type: none"> 4) Has the watershed project generated more income for households in this village? <p>If yes, did you consider that some households may earn more than other households, i.e. increasing yields and labor? What have you done to ensure that also the poorest and those furthest from the nallah and anicut can increase their income?</p>

<p>Testing for human capital formation bias</p>	<p>5) Do the people in the village committee receive training from Seva Mandir? If yes, has there been any training provided to non-committee members? What kind / why not? Are there any groups that have been especially targeted for training (e.g. ST/SCs and women)? Is it possible for everyone to participate in the training? If no, how did leaders acquire the skills needed e.g. accounting?</p> <p>6) What are the main considerations when a new anicut or other construction shall be build?</p> <p>7) When you discussed where the last anicut etc. should be constructed, were people in the village invited to come up with suggestions on its placement? If yes, did everyone attend the meeting? What can be done to ensure that everybody attend and participate? What are the difficulties in ensuring that everyone's voice is heard? In case of disagreements, how can they be tackled? If no, is it possible to for everyone to have a say? What could be done to make all village members voice heard?</p> <p>8) Is it possible for every member of your community to become a member of the village committee? If yes, are there any special skills required? How can people who lack these skills become members? If no, are there any special skills required? How can people who lack these skills become members?</p> <p>9) Are there any reservations for women and SC/STs in your village committee? If yes, what are the advantages of reservations? Are there / could there be any other measures to ensure that these groups become represented? If no, how do you ensure that everyone's voice is heard? Are there any special consultations or ways of gathering those groups opinion?</p>
<p>Institutional mechanisms to ensure inclusive decision-making</p>	<p>Has equity been considered in terms of ensuring inclusive decision-making? Are there any conscious strategies to include the marginalized in decision-making</p>

B. INTERVIEW GUIDE FOR NON-GVC MEMBERS (GROUPS AND INDIVIDUALS)

Issue	Motivation	Question
<p>Water situation: hardships and how benefits are distributed</p>	<p>To understand how water problems are related to well-being</p> <p>To detect if there are inequalities in access to water</p>	<p>1) What are the main problems that your household faces in regard to water?</p> <p>2) Do some households in this village suffer more than others?</p> <p>If yes, how?</p> <p>If no, are all households facing the same kinds of problems?</p>
	<p>To identify if there are any inequalities in accessing the benefits</p> <p>Testing for investment bias</p> <p>What has been done to do address unequal benefits</p>	<p>3) Constructions build by Seva Mandir / Panchayat: how do they help you in your daily life?</p> <p>4) Do some households benefit more?</p> <p>If yes, how? What was done by the GVK / GM to ensure that people far away from the water constructions also benefit?</p> <p>If no, could there be done more to ensure that everyone benefit? What?</p>
	<p>Testing for human capital formation bias</p>	<p>5) Have you been invited for training or meetings in connection to SM /GM?</p> <p>If yes, what was the topic? Why was it held? How have you benefited? Are there any groups that have been especially targeted for training (e.g. ST/SCs and women)? Is it possible for everyone to participate in the training?</p> <p>If no, is it necessary that people outside the GVK / GM receive training? Why/ why not?</p>
<p>Institutional mechanisms to ensure inclusive decision-making</p>	<p>Has equity been considered in terms of ensuring inclusive decision-making?</p> <p>Are there any conscious strategies to include the marginalized in decision-making?</p>	<p>6) When a new construction is to be build, are members of the community invited to discuss where it should be build, how it should be build?</p> <p>If yes, did everyone attend the meeting? What can be done to ensure that everybody attend and participate? What are the difficulties in ensuring that everyone's voice is heard?</p> <p>If no, do you think is it possible to for everyone to have a say? What could be done to make all village members voice heard?</p>

		<p>7) Is it possible for every member of your community to become a member of the village committee?</p> <p>If yes, are there any special skills required? How can people who lack these skills become members?</p> <p>If no, are there any special skills required? How can people who lack these skills become members?</p> <p>8) Are there any reservations for women and SC/STs in your village committee?</p> <p>If yes, what are the advantages of reservations? Are there / could there be any other measures to ensure that these groups become represented?</p> <p>If no, how do you ensure that everyone's voice is heard? Are there any special consultations or ways of gathering those groups opinion?</p>
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C. INTERVIEW GUIDE FOR SEVA MANDIR STAFF MEMBERS

Issue	Motivation	Question
Institutional provisions to ensure equitable access to the benefits of water structures	To understand how staff strategically relates to the fact that watershed development tend to favor those already well-off	1) Watershed development is often criticized for benefiting those already relatively well-off, i.e. land holders in the lower ridges, and to cause damage to the poorest, i.e. by enclosing the common lands. What are the equity-issues of this watershed? 2) What are the concrete measures that you take / can take to ensure that those far away from the watershed constructions also benefit? 3) What are the things that can be done to compensate those who might lose? 4) What are the difficulties you experience in ensuring equitable outcomes of watershed development?

<p>Institutional mechanisms to ensure inclusive decision-making</p>	<p>To understand how staff seeks to create an environment for inclusive decision-making</p>	<p>5) When new watershed initiatives are discussed, what are the things that you can do to involve people / motivate people to come to the meetings?</p> <p>6) What are the things you can do to make everyone's voice heard – also those who are less outspoken in meetings, e.g. women or members of lower castes?</p> <p>7) How do you respond to the fact that some members have more power and more interest in the project than others, i.e. that those who have reservations are also heard?</p>
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APPENDIX III – TRANSCRIPTION MATRIX

Village:

Respondent(s):

Date:

Aspect of research interest	Responses
What are the main water problems?	
What are the benefits that households can generate from existing water infrastructure	
How are the water infrastructure and the benefits from it distributed?	
Institutional mechanisms that promote equitable access to benefits	
Institutional mechanisms to promote inclusive decision-making	
General observations and reflections	