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CONTENTS

Equity Reexamined: A Study of Community-Based Rainwater Harvesting in Rajasthan, India

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Summary. — Equity is central to community-based development efforts, but community perspectives on equity are seldom examined in the development literature. This study investigates how equity in a rainwater harvesting program is understood, and practiced in two Rajasthani communities. Drawing on Bourdieu's concept of symbolic capital, we find that the symbolic capital accrued from contributing to the project is as central to community understandings of equity as the distribution of benefits from the project. We find that a continuing sense of community despite heterogeneity is itself a form of symbolic capital. Community-based valuations of equity thus enable a more catholic approach to costs, and benefits that broadens our knowledge both of equity, and of development.
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Key words — equity, CBNRM, rainwater harvesting, community perspectives, symbolic capital, India

1. INTRODUCTION

"We don't have land, or wells, but we are ready to give." — Kalu Ram [1]

"I have less; others have more. But everyone should give equally." — Guddi

Equity is one of the primary goals of sustainable development, valued for both its intrinsic worth, and its instrumental role in ensuring sustainability. Its role in the development discourse, however, remains one of honorable mention rather than analytical use, often taking a back seat to "efficiency." Equity persists as an ill-defined concept with its many, and contested meanings largely unexamined. Specifically, the motivations, and practices of different community members, and the roles they play in community-based conceptions of equity, are rarely considered in philosophical, or empirical scholarship on equity. By contrast, community-based research methods have been innovatively employed to broaden our knowledge of concepts such as poverty (e.g., Krishna, 2006), and risk (e.g., Slovic, 1987).

The purpose of this study is to investigate community-based perspectives of equity, not in order to valorize them, but to see how these might contribute to a more grounded treatment of this important but currently under-examined concept. In our study, *equity*, and *equality* are not coterminous, although the two are sometimes conflated in the natural resource management, political ecology, and development literatures. Equality implies the condition of being equal in quantity, number, or value, for example, in allocating a resource, or dividing a profit. Equity, on the other hand, requires the presence of fairness, or justice, and is thus a concept that can never be shorn of its ethical, or cultural aspects. Obvious affinities exist between the two in that the assessment of equity must take equality into account. But equality of what? (Sen, 1979) Our research evaluates how equity in a rainwater harvesting program is understood, and put into practice by diverse elements within two communities in Rajasthan, India.

Kalu Ram, and Guddi, two of the study respondents quoted above, exemplify the central finding of this research. Both wish to contribute equally with others to the village rainwater harvesting structure (*johad*),[2] though neither has any obvious incentive to do so. Both come from relatively poor families with few resources, and stand to gain little from the *johad's* construction. Their desire to contribute to the rainwater harvesting project thus presents a challenge to definitions of equity that emphasize the distribution of resources as a marker of equity, and do not address cost sharing, or contributions *independent of resource distribution*.

In this study, despite the *johad's* economic benefits (namely, more well water for irrigation, and livestock) not being equally—or even universally—distributed, almost all villagers supported equal per household cost contributions. By sharing costs in this way, all community members, even the poorer ones, acquired valuable symbolic capital (Bourdieu, 1977), the benefits of which included the fulfilment of religious duties, the right to claim equal membership of the village, participation in decision-making, and village unity. The expectation of symbolic capital from equal cost sharing was critical to the understanding of equity, and only became evident when taking community perspectives into account. Current

conceptions of equity, which treat contributions solely as costs, and outputs alone as beneficial, miss this aspect entirely.

The primary conclusion of our research is that significant benefits can be derived not only from the outputs of community-based resource development, for example, more well water, but also from inputs into them. Thus an arrangement that is unequal, such as equal cost allocation despite unequal allocation of economic benefits, may not be considered inequitable in light of all the economic, and symbolic dimensions through which equity is understood. The rest of this paper describes the study site, the research design, the literature upon which we draw, and the key findings upon which our conclusion rests.

2. RAINWATER HARVESTING IN RAMWAS, AND SHERGARH

Rainwater harvesting is the practice of capturing rainwater in the wet season, and storing it for use in the dry season. Community-based rainwater harvesting offers the potential for substantial, and locally sustainable benefits when it provides water for drinking, irrigation, and domestic animals (Agarwal & Narain, 1997; IWMI, 2006). Moreover, because freshwater serves a universal need, rainwater harvesting is a particularly illuminating case for a study of equity.

Rajasthan is in western India—a region with intermittent water shortages, and limited state supplies of water. We selected two sites, Ramwas, and Shergarh in the district of Alwar, [3] from among the many villages where communities have revived water harvesting structures in the previous 15–20 years. [4] In most such initiatives, community members are expected to contribute cash, or labor to the project, for both its construction, and its ongoing operation, and maintenance. The johads of Ramwas, and Shergarh were constructed through the "donated labor" (or shramdan) of the villagers, and the equivalent in cash capital inputs was granted by Tarun Bharat Sangh (TBS), [5] a prominent Indian non-governmental organization (NGO). Each household continues to contribute approximately Rs. 100 per year in cash, or grain. [6]

Over a fieldwork period of close to a year, through semi-structured interviews, informal conversations, and observation, we collected information on each household's labor, and monetary contributions to the johad, individual participation in decision-making about the johad, how costs related to the johad should be allocated (i.e., what would be fair), and where future rainwater harvesting projects should be located. For the semi-structured interviews, one man, and woman from every participating household was interviewed. We also asked more general questions, for example, about unexpected changes resulting from the johad, what would be necessary for everyone to give willingly for the johad, and what would be an equitable way to share costs, and benefits of community resources other than the johad. In addition, we collected data on the costs of, and revenues from crop, and livestock activities to see how the agricultural benefits of rainwater harvesting were distributed. The primary goal of the fieldwork was to elicit diverse perspectives of equity from a range of community activities, and specifically with respect to the johad.

3. EQUITY IN THEORY, AND PRACTICE

There are myriad ways to conceptualize equity, each of which carries different implications about the allocation of rights, and resources. For example, Rawls (1971) advocated a "veil of ignorance" (Rawls, 1971, p. 136) approach to achieve equity. Individuals are asked to delineate a series of negative rights—rights that cannot be violated—for a hypothetical society in which they do not know what their own position will be. Into this framework of choice in the "original position" (Rawls, 1971, p. 60) Rawls incorporated positive rights—a system in which every individual has access to a minimum level of what he calls primary goods, such as food, shelter, education, and opportunities.

Sen (1979, 1992) retained this liberal egalitarian approach but shifted the focus from the distribution of rights, and goods to what these rights and goods enable an individual to do. Sen argued that the Rawlsian approach will often not achieve equity because the same primary goods do not map to the same capabilities. Thus people with disparate needs should be entitled to disparate shares of social goods. Moreover, Rawls's philosophical starting point, the original position in considering fair allocation, may in principle be infeasible because beliefs, and reasoning are inextricable from an individual's experience and position (Sen, 1993). In a rainwater harvesting program, a primary goods approach would consider equitable a water distribution regime that guaranteed all individuals an adequate threshold quantity, whereas a capability approach would call for water to be allocated in accordance with individuals' particular circumstances.

Dworkin (1981), writing from the perspective of jurisprudence, posited that a fair, and equitable society is one in which the consequences of personal choices dominate those of chance, or luck. To counter advantages of chance within a competitive market economy, he argues in favor of ongoing equality in the distribution of resources. In this study, where water allocation is highly dependent on the location of one's land with respect to the johad, and thus on chance, Dworkin's approach would require a significant redistribution of water rights to provide equal access.

Case-based equity studies that advocate practical ways in which rights and goods should be allocated are prominent in the community-based natural resource management (CBNRM) literature (Ahluwalia, 1997; Kerr, 2002; Ostrom & Gardner, 1993; Wade, 1988). For example, Kerr (2002) demonstrated that many watershed management programs differentially affect upper, and lower-watershed users—providing benefits to the wealthier lower-watershed users, and requiring costs (i.e., withdrawal of needed common land) from poorer upper-watershed users. This criticism features in the community-based resource literature more broadly, based on the frequent observation that the better-off members of a group receive the greatest benefits from local common property regimes (Agrawal, 2003; Blair, 1996). Kerr concluded that the most successful systems—the ones that are deemed fair—ensure that upper-watershed users receive benefits from the program, and are compensated for their loss of land.

Ostrom and Gardner (1993) in a study of locational asymmetry on canal systems concluded that a fair arrangement can result in a disproportionate allocation of costs, and benefits. They calculate Pareto optimal allocations of water, and labor that require cooperation to increase the net supply of water relative to the non-cooperation baseline. The "rational" decision to cooperate requires a mutual dependence on labor for both the head- and tail-enders—allowing the tail-enders, who would otherwise receive relatively little water, to bargain for an increase in their water rights in exchange for a disproportionately large contribution of labor.

From these works, many of which contain key ideas reflected in the design of development projects, it is clear that equity is defined differently depending on the researcher's

political philosophy, and practical experiences. However, these treatments of equity share two features. First, they all equate outputs such as rights, or resources with benefits, and—either implicitly, or explicitly—consider inputs as costs in the evaluation of equity. Thus contributions of cash, or labor are treated exclusively as burdens rather than as potentially of intrinsic worth. We shall show that such a division may not be reflected in equity from the perspectives of communities themselves.

Second, the economic costs, and benefits associated with the allocation of rights, and resources are central to most evaluations of equity in practice, although they are not, of course, the only values recognized in the literature (see, e.g., Carney & Watts, 1990; Mosse, 1997; Rawls, 1971, 2001; Scott, 1976; Sen, 1979, 1992). From the policy perspective, rainwater harvesting is usually promoted by NGOs as a means to achieve economic self-sufficiency, even for the poor. [7] Kalu Ram, and Guddi, however, contribute without any expectation of direct economic reward. How can such motivations be incorporated into a framework of equity? To understand Kalu Ram, and Guddi's reasons to give, we turn to Bourdieu, and his concept of symbolic capital (Bourdieu, 1977).

4. SYMBOLIC CAPITAL

Bourdieu's analysis of practice, and of what counts as a cost, or a benefit extends conventional economic formulations of what is valued, and thus of what is equitable. Bourdieu argues that an overly narrow study of practice restricts attention to purely economic activities, and ignores practices that are considered symbolic, such as building prestige, or defending one's honor. These symbolic practices generate capital of their own—symbolic capital—that can be converted into economic capital at a later point, for example, using one's prestige to draw on outside labor during peak work periods (Bourdieu, 1977, pp. 178–179). Likewise, economic capital can be converted to, and stored as symbolic capital, for instance, using expenditures from a good crop to pay for a prestige-building wedding. The two capitals are inter-convertible but not predictably so, and they are never reducible to one another. Bourdieu's analysis of the relationship of the symbolic to the material and the modes of conversion between them are at the heart of his premise of "the systematic unity of practical social life" (Brubaker, 1985, p. 748).

In this study, the *johad* allows for both economically- and symbolically-motivated practices. A villager might want to contribute to a *johad* for its economic benefits, for example, water for irrigation. But Bourdieu's emphasis on symbolic capital could explain why some would give without expectation of immediate economic gain—they give for the symbolic capital that accrues from this action. A major non-economic value of the *johad* was expressed as the fulfilment of *dharm*, or religious duty, specifically in the provision of water for animals (domestic, and wild). Other values were also cited, including village unity, and the importance of giving equally in order to claim equality with others in the village. This desire to accumulate symbolic capital was not limited to the poor; symbolic values, and the capital they generated were also important to the relatively wealthy, and for similar reasons.

But Bourdieu cautions against the conflation of people's stated reasons and motivations, and even of people's beliefs about their reasons, and motivations, with actual practice (Bourdieu, 1977, p. 18). What he calls people's "sincere" beliefs about themselves, and their customs, and norms are to be taken as models rather than as reality—the (class-specific)

self-interest underlying "normal" symbolic, or material practices is not always recognized as self-interest. It is the very failure to recognize the logic of self-interest, and to perceive it instead as the logic of disinterest (*dharm*, village unity) that legitimizes these practices, says Bourdieu. This misrecognition—the failure to recognize self-interest as self-interest—enables the unequal social order in which these practices are embedded to continue (Bourdieu, 1977, pp. 178–179). Therefore Kalu Ram, and Guddi's insistence on giving, and on giving equally with others as the fair, and proper way, could be indicative of this pervasive misrecognition. Such a possibility must be accounted for in our evaluation of what constitutes equity in these communities.

Bourdieu's understanding of resources as simultaneously material, and symbolic also underlies Mosse's research on tank-irrigated villages in South India (Mosse, 1997). Mosse critiques institutional-economic models of collective action as overly concerned with the material outputs of tanks (water, fish, and trees) at the expense of their symbolic role in village public life. He argues that "rules" of water sharing appear to be "strikingly equitable" (Mosse, 1997, p. 481) but that—as Bourdieu might have predicted—in practice these rules serve to cement traditional, and caste-based authority. When the tank is understood to be as much a source of power as it is of water, or fish, it can be understood why minor resources ("a handful of fish," p. 487) can generate major disputes. Our research strongly agrees with Mosse, and other authors critical of the narrowly economic conceptualization of common resources, but goes beyond their output-focused conceptions of equity to the equity achieved through contributions to the common resource.

The next section of this paper describes how the members of both the study villages characterize equity. Our core claim is that rather than focusing on the distribution of benefits from the *johad* as the basis for assessing fairness, the villagers' conceptions of equity are primarily concerned with the distribution of costs, often independent of benefit distribution. Most respondents expressed a strong support for equal cost sharing as the basis of a fair system. This broad connection between equity, and equal cost allocation was particularly strong when the resource in question held the potential for building symbolic capital. Our fieldwork shows that community-based valuations of equity—and their situation-specific natures—enable a more catholic approach to costs, and benefits that broadens our knowledge of equity in particular, and development interventions in general.

5. UNCOVERING COMMUNITY-BASED PERSPECTIVES ON EQUITY

Critiquing narrowly economic approaches to CBNRM research, recent scholarship on natural resource management has made a compelling case for understanding how a resource is used both physically, and symbolically (Berry, 1987; Carney & Watts, 1990; Li, 2002; Mosse, 1997; Schroeder, 1997; Unnithan & Srivastava, 1997). Taken together this body of work argues that resources stand for things other than their material outputs, and that resource use is thus not separable from the larger set of social transactions in which communities engage. It shows that natural resource use reflects both cooperation, and conflict, either covert, or overt, within communities. Through interviews, and observation we focused on uncovering, and analyzing these aspects of the *johad*, with attention to divisions of land ownership, caste, and gender. We came to understand what the rules-in-practice of water, and cost

allocations were, who followed, and who violated these rules, who made decisions concerning the *johad*, and what changes to the *johad* were envisioned. We investigated the equity implications of this project for the community, with particular sensitivity to the potential for conflicts over the design, uses, maintenance, and symbolic meanings of the *johad*. Understanding how, and why the *johad* engenders cooperation, and conflict reveals the foundations of equity—what each community member considers fair, and important to the success of the program.

Many possible allocations of resources may be defended as equitable, a commonly cited one being the proportional allocation of costs into, and benefits from the resource (Anand & Sen, 2000; Kerr, 2002; Kumar, 2002; Walle, 2002). In both Ramwas, and Shergarh, customary practice requires that contributions be made equally per household, regardless of the benefits to, or the financial circumstances of the household. Due to the nature of the groundwater recharge system, water from the *johad* affects all wells differently, and there are no rules, or physical mechanisms to ensure an equal distribution. Well water is distributed on a fixed-time basis, in proportion to the land owned, and the farmer with the allotted turn can draw as much water as is available. Farmers with wells downhill from and close to the *johad* enjoy a consistently replenished supply, and are not limited by water in their choice of crops. Farmers with wells that do not recharge quickly, however, are water constrained, and must grow low-irrigation crops such as mustard. [8]

Because water allocation norms are fixed, and unequal, the monetary, and labor contributions toward maintaining the *johad* become critical to the understanding of equity. The *johad* technology *per se* does not limit characterizations of equity to equal contributions. Other bases of cost allocation that vary according to benefits, household wealth, need, or family size could have prevailed. One of our early hypotheses was that the existing rule requiring equal contributions per household might be considered unfair by those who receive fewer (or no) well water benefits, or are less able to pay.

Despite the extensive literature hypothesizing, and documenting nodes of conflict over resource use, such as assets, gender, and caste, we encountered very little conflict. Everyone expressed happiness with the *johad*, and readily recounted the benefits of year-round well recharge for agriculture, and domestic use. But unexpectedly for us, animals were a recurrent theme throughout our preliminary interviews. Almost nothing in the CBNRM literature, even that which insists on the centrality of extra-economic values, had prepared us for the animal-centered value of the *johad*. When we inquired about the *johad's* benefits, this common response illustrates the significance of animals: "If I die thirsty, it is okay, but animals should not die thirsty. If there is no *johad*, then where will I take my animals? They have the same soul." Another, when asked why everyone should give for the *johad*, remarked, "I don't have animals but jungle animals drink there. It is *dharm* work."

The villagers repeatedly described how, as worshippers of the Hindu deity Mahadev, providing water for animals fulfils their religious duty. Bearing in mind Bourdieu's warning against taking sincere beliefs at face value, we wondered if this religious dedication might be a socially acceptable way to advocate for tangible economic benefits from providing water to domestic animals. With improved water sources, animals stay healthier, require less labor to provide them water, and produce more milk. But respondents explicitly mentioned peacocks, and other jungle animals that are often detrimental to their agricultural efforts. During the cold winter months,

men remained in the fields at night to keep the peacocks from destroying their crops. Yet these men, who by night threw rocks at the peacocks to drive them away, by day described their desire to provide these same peacocks with drinking water. Even when jungle animals killed valuable domestic animals the villagers wished to provide them a source of water.

Based on these first interviews, we considered the possibility that everyone contributed equally to the *johad*, regardless of agricultural benefits, or socioeconomic standing, because of the animals. Buffalo, goats, pigeons, and peacocks, were all cited as creatures that drink from the *johad*. We hypothesized that the fulfilment of religious duty through the *johad*, and its service to other living creatures could be a manifestation of the community's "environmental imaginary" (Watts & Peet, 1996)—"a way of imagining nature, including visions of those forms of social, and individual practice which are ethically proper, and morally right with regard to nature" (Watts & Peet, 1996, p. 263). Results from our interviews supported this view: 110 out of 120 respondents mentioned that animals benefit from the *johad*. [9]

In designing a second round of interviews, we wanted to assess whether the extent to which animals, and *dharm* were being served strongly influenced notions of project equity. Before asking any questions about the *johad*, we asked a series of questions about a hypothetical project unrelated to animals. In Ramwas, we described a community project that would pave an existing dirt road located by some of the fields far from the *johad*—a project which, like the *johad*, would have net collective benefits that are unequal, and location-based. In Shergarh, we asked about two hypothetical scenarios in alternating order—the road-paving scenario, and a scenario about building a community center, a project with potentially equal benefits for all community members. [10] For these scenarios and for subsequent questions about the *johad*, we asked if contributions by all households should be mandatory, or optional. We then asked what a fair cost allocation would be, that is, based on wealth, based on benefits, or equal per household.

Were people still willing to contribute equally to a project with asymmetric benefits without potential benefits for animals, and for *dharm*? A significant majority of respondents for all scenarios thought that giving should be mandatory, and on an equal per household basis. [11] Responses that favored mandatory, and equality of giving did increase for the *johad* compared with the two other scenarios. But the responses did not change much—regardless of animals, or the distribution of benefits, a clear majority still wanted costs to be equally borne by all.

The rainwater harvesting project was promoted by (TBS), and its local supporters as a project that would be useful for the entire village, because "everyone" profits equally through having water available for livestock, and for wells. [12] Equal cost contributions were seen by TBS as customary for the region, and not in need of further explanation. But our respondents did not suggest that everyone should give equally for the *johad* on the expectation that everyone would receive an equal allocation of water. The discourse, and practice of equal contributions had not kept the inequality of outcomes from the *johad* from being widely, and correctly recognized. So why did the residents of Ramwas, and Shergarh accept as equitable the principle of equal contributions in the face of unequal outcomes?

(a) *The bases for equal cost allocation*

The reasons provided for why equal cost allocation was a marker of equity were varied. The range of reasons suggested

that benefits were derived not only from the distribution of project outputs, but that significant symbolic capital, such as prestige, village unity, and (where relevant) *dharm*, was acquired through sharing costs, and through sharing them *equally*. Respondents usually mentioned more than one reason, and there was no correlation of type of reason with gender, caste, or landholding status. Below we provide seven reasons for equal giving that illuminate the ways in which villagers accrue symbolic capital through cost sharing. We then explore the significance of this symbolic capital for equity—for all villagers, and for the landless castes in particular.

The first group of four reasons in support of equal cost allocation was distinguished from the others by their *independence from any outcomes* of the project. The first of these was that everyone is, should be, or will be equal. People are equal, therefore everyone should give equally; by requiring equal contributions, no one can insinuate that some villagers are unequal to others. For example, "If I give 100, you give 5, how are we equal? We are not equal." Several respondents explicitly stated that people were equal regardless of differences in landholding, or education: "Someone is weak; someone may be rich. But we are equal. So everyone should give equally."

A second outcome-independent reason was that the project (*johad*, road, or community center) was a village project belonging to all, and thus costs should be shared equally by all. Many added the argument that if everyone contributes equally, more work can be accomplished, and the results will bring prestige to the village: "The road will look good for the village. Others will say the villagers made it."

A third rationale was the maintenance of unity, and dignity. This was the argument that first, giving the same as others promotes unity, and prevents conflicts at the village-level: "You won't feel, that person gave less, I gave more"; and second, giving like others maintains respect among peers, and allows each person to use equal contributions as a means to claim equal rights in the village. For example: "Someone can hurt your pride. This way no one can say—today you are doing this big work—that day you didn't give anything."

Fourth, equal cost allocation was brought up as the norm. A few respondents gave no reason for giving equally other than that everyone gave equally before the *johad*, or that the village always gives and takes money equally for any project, or ritual: "This is the villagers' understanding that everyone has to give equally. When my children grow up, even they will have to give equally."

The next three reasons that endorsed equal cost contributions were *dependent on the project's outcome*, though not on equality in the distribution of its benefits. The dominant non-economic benefit of the *johad* cited by 92% of our respondents was *dharm*. Respondents said over, and over that it was their duty to provide food and water for animals, which was made available through the *johad*: "My animals don't go there, I don't have water in my wells. I gave for *dharm*." Fulfiling *dharm* was not conditional on how economic benefits from the resource were distributed: "For pious deeds, nobody wants to be lower."

A sixth reason was that the *johad*, either its use, or the right to its use, was equally needed by all. Several respondents stated that everyone should give equally because everyone's needs are equal, meaning that everyone needed drinking water equally, or that rich, and poor all needed the resource. One respondent grounded his reason for equal cost allocation in opportunity cost—all would lose equally if the *johad* were not built: "If you are earning from one *bigha*, and I am earning from five, and if there is no water, then five *bighas* and one *bigha* are equal."

The seventh, and final rationale for equal cost allocation was the breadth of benefits from the *johad*. This rationale is similar to the one above, but without an explicit emphasis on need. That everyone derived a core benefit from the resource was reason enough to require everyone to contribute equally. One such benefit was drinking water, for example, "One person may have more land, one less land, but everyone's animals drink water." Other broad-based benefits were also cited, such as that everyone was happy when the wells had water: "It benefits everyone. It is not for one."

However, there were limits to the circumstances in which villagers argued that "everyone should give equally." In the decision to invest in the *johad*, the symbolic benefits obtained from contributing could outweigh the unequal distribution of well water benefits. But when questions about the same *johad* were posed in other contexts, such as enlarging it to enable irrigation by above ground pipes to nearby fields (bypassing the wells, and thus yielding significant benefits for a few but none at all for others), respondents focused on the lopsided distribution of economic benefits. A majority moved from an emphasis on equal cost allocation as fair, and equitable to outright opposition to piped irrigation. The pipe project's highly skewed economic benefits, and its potential to destroy the animals' water source threatened to undermine investments already made in village unity, and in *dharm*. The core values that equated building the *johad* with *dharm*, and with equal participation rights in the outcome of the project, would be undercut. There was no question of such a project being equitable.

(b) *Symbolic capital from giving equally*

How do these responses help us to reexamine equity in relation to community-based projects? They reveal that in addition to direct economic benefits, such as irrigation water, and water for their animals, many respondents expected to acquire symbolic capital on an individual basis from equal contributions to village resources. In Sen's terms, individuals broadened their capabilities through acquiring symbolic capital, where "capability represents a person's freedom to achieve well-being" (Sen, 1992, p. 49). Because much of this symbolic capital was built up from the specific mode of cost sharing, equal costs despite unequal benefits appeared equitable to the villagers. The three major categories of symbolic capital that emerged from the communities' perspectives were village unity, *dharm*, and the right to participate in community life.

A first symbolic asset was village unity, and prestige. Villages in eastern Rajasthan have had periodic conflicts with government, for example, disputes with the forest department; with private businesses such as Coca-Cola which draws groundwater at the expense of local farmers; [13] and with non-profit groups who support the Keoladeo Ghana bird sanctuary, and want the water designated for Meena farmers to be used for this ecologically sensitive park. In meetings with villagers throughout the region, TBS reiterates the need for unity in order to stand up to external interests. TBS helps villages to form committees at both the village, and regional levels, exhorts the villagers to act unselfishly, and to strive for collective social benefits. [14] As a Shergarh resident said at a regional TBS meeting, "If the village committee is strong, the government can do nothing to stop them." The importance of a feeling of unity in the face of external threats has also been commented on in previous studies of water resources management (Ahluwalia, 1997; Wade, 1988). Many respondents, landed, and landless, argued that equal, and universal

contributions to the *johad* built up this sense of unity that could then be called upon when negotiating with outsiders.

The symbolic benefit described by an overwhelming number of villagers was *dharm*. Low-castes, and high castes with fields close, and far from the *johad*—all wanted to give for the *johad*, and to give equally, because it helps animals, which in turn fulfils *dharm*. Such benefits disproportionately serve the self-interest of those who own animals but, concealed in the logic of disinterest around *dharm*, could appear to serve all (Bourdieu, 1977). Understanding how giving for *dharm* can become symbolic capital is a complex matter, given that manifestations of religious values have historically served to affirm community identity but also to reinforce difference, and hierarchy. [15] Mosse's (1997) study of irrigation in Tamil Nadu, for example, found that the act of constructing, and maintaining common resources such as tanks, and temples served to reinforce traditional, and unequal structures of authority. By contrast, in Ramwas and Shergarh, where "for pious deeds nobody wants to be lower," contributing equally for *dharm*, and being seen to be an equal player with respect to *dharm*, affirmed individual respect, and joint community values. These are significant categories of symbolic capital.

A third important benefit arising from equal contribution was individual dignity. By giving the same as others (and by giving the same for *dharm*) villagers gain, and maintain individual prestige. This path to prestige was explicitly acknowledged: "It would be good if I could give equally. Others would speak highly." The symbolic capital thus accrued could be saved for times of need, as when marriages are arranged, support from others is requested, or votes for the *panchayat* [16] are solicited.

Closely related to maintaining dignity was the right to participate in community life, and in decisions regarding the *johad*. This right remained critical even if it was seldom exercised. For example, in 2003 a conflict arose when heavy monsoon rains threatened to break the Ramwas *johad*. Those whose lands, and homes would be ruined in the event of a break wanted to release some of the water, and reduce pressure on the dam. Those whose lands were far from the potential destruction wanted to keep the *johad* full, as their land received groundwater recharge only when the water levels were high. After intense negotiations, the village finally agreed to release some of the water, and later re-build the *johad* higher, and stronger. Even though most villagers do not participate in regular decision-making related to the *johad*, reserving the right to engage in rare situations of conflict is a significant benefit. [17]

The association of giving equally with equal rights was voiced in particular by those who otherwise felt excluded from equal membership in the village, such as the minority landless castes in Shergarh. [18] The landless derive few direct water-based benefits from the *johad*, are understood to be impoverished relative to others, and are excluded from the village's Meena-caste identity, and decision-making. But these respondents still wanted to contribute to community enterprises—in part to assert their right of access to the common resource, even if they only used the *johad* for washing their hands—and in part to be seen as equals.

Ribot and Peluso (2003) defined "access" as the ability to derive benefits from resources, independent of *de facto* rights to those resources. In discussing the ways in which people derive benefits, they include access via identity, such as caste membership, and access via negotiation of social relations, such as personal prestige, and marriage. When access via identity is precluded, as is the case for low-caste members in Shergarh, they may seek other means of accessing village resources.

This landless respondent explained the disadvantages of not contributing equally: "If you don't give the same as others, you won't be allowed to attend the meetings. If I don't give, villagers will say, you don't have a share." Similarly, another respondent said that cost allocations should be equal because then everyone would have equal rights, adding, "If the rich give more, they will have more rights." [19] Some of the landless also stated their reliance on the *johad* for bathing, and watering their animals, and on other common village resources such as firewood. Overall, when landless respondents described the advantages of contributing equally, they referenced village unity, wanting to give like others give, and having a claim to the resource. In some conversations the resource in question appeared to be the village itself as much as it was the road, or the *johad*. The landless wanted to be considered part of the community, and being asked to contribute to a community project was a sign of the inclusion to which they aspired. [20]

In making equal contributions, the landless castes preclude the Meenas from claiming the *johad* as an exclusively Meena project from which others can be excluded either materially, and symbolically. Indeed, for all three projects—community center, road, and *johad*—75% of the landless (the same percentage as the landed castes in Shergarh) considered equal allocations to be the most equitable way of covering costs. [21] In contrast to Mosse (1997) who found that lower-caste villagers occasionally *refused* to provide labor for irrigation tanks as a way to protest unequal power relations, the villagers in Shergarh *insisted* on equal participation precisely because they are conscious of unequal power relations, and want to stake a claim to future equality. [22]

Bourdieu argues that when ideologies are universally accepted they can preserve, perpetuate, and legitimize social distinctions without appearing to do so. Such "collective representations" are often grounded in the "fundamental structures of society" such as the elite *versus* the masses, and serve to cement forms of social, and cultural domination (Bourdieu, 1984, p. 468). Yet Bourdieu also says that there is always the possibility of "challenge," and that high, and low alike can legitimately pursue honor, and belonging (Bourdieu, 1977, pp. 10–12). In Shergarh, members of both high, and low-castes repeatedly articulated that everyone is equal (or will be equal) by giving equally. Yet Shergarh is not a village of equals, and the reality of this inequality is hidden from no one. The same landless man who said that contributions should be equal because rights are equal reversed himself later in the interview, saying: "No one should give anything here. There is no benefit of giving anything. The Meenas only think about themselves. No one thinks about the poor, about the Bhangis (a low-caste)." Nevertheless this respondent continued to insist that contributions should be made equally "because everyone is equal." We conclude that the landless castes persist in contributing equally, not under the illusion that equal contributions will make them equal, but because giving equally provides the right to aspire to equality. In Sen's terms, the symbolic capital from these contributions provides greater equality of the "means to freedom" (Sen, 1992, p. 84). These means are at once material, and aspirational, and include a share in the *johad*, the option value of benefiting from future material opportunities, the right to participate in decisions, and, related to this right, protection from exclusion.

This is not to say that Meenas will then consider low-castes as equals—caste identification remains too strong a component of individual, and village identity to be supplanted by equal cost allocation for one, or more projects. Nor do we im-

ply that this symbolic aspect of giving (and accepting) equally exhausts the motivations of either the low, or high castes. But the primacy of equal cost allocation is not merely a discourse that allows high castes to exploit low castes—exactly the same principles of cost allocation were articulated in Ramwas, which is a much more homogenous village, socially, and economically. Moreover, as we showed earlier, situations do arise in which villagers from all strata refuse to participate, such as when the community project benefits only a few individuals, or is not perceived as a village activity, or of symbolic worth.

Equality through participation is thus an ideal to strive for, and many of the more powerful residents accept the legitimacy of this aspiration. This aspiration is given voice in part through equal contributions to village projects, and this is a key reason for the moral validation of equal cost sharing as an equitable practice even when equal participation cannot immediately be capitalized on. These understandings of equity, however, reveal the fine line between the desire for dignity and the fear of exclusion, between realizing material gains, and not incurring material losses. The *johads* of Ramwas, and Shergarh reinforce Bourdieu's insistence that symbolic capital—in this case access both to water, and to the community—is neither reducible to, nor completely divorced from, economic capital (1977, p. 183).

6. PERSISTENCE OF COMMUNITY: A NEW, AND AN OLD DEBATE

Recent literature in political ecology has been critical not only of narrowly economic views of resources, but also of the homogenizing, and undifferentiated views of "community" espoused by economic-institutional CBNRM frameworks. In light of divisions of caste, class, wealth, and gender—and of the differences in understanding, and ability rooted in social hierarchies—in what sense can the diverse residents of a politically defined village be considered "a" community? This is the challenge to traditional CBNRM analysis posed by Li (1996, 2002), who argues that the "advocacy agendas" of NGOs, and donors highlight community capacity but strategically simplify away its inequalities; [23] by Mosse (1997), who critiqued the model of management-oriented communities that is required for CBNRM policies to succeed but that does not reflect the internal differentiation within these communities; and by Mohan and Stokke (2000), who claimed that the heightened interest in community-based solutions risks romanticizing communities, and isolating them from the external power structures in which they are in fact embedded. [24] In the particular case of rainwater harvesting, it can certainly be argued that much NGO, and promotional literature relies on an undifferentiated, and united vision of the village.

These more recent arguments echo an older debate in Indian history, and sociology on the role of the village in social, and political life, and whether "the Indian village" is a viable unit of social analysis. Gandhi (1942/1977) thought of the village as an essential unit of social organization, and one that was capable of cooperation, and of near self-sufficiency. Ambedkar on the other hand, one of the architects of the Indian Constitution, condemned Gandhi's views as sentimental. He believed that the village community was a "sink of localism" (cited in Béteille, 2002), and that the lower castes should get educated, and escape the village. Dumont (1966/1972) in a similar vein wrote that the village as such was not a social unit because all decisions were made by a small group of upper-caste leaders with little broad-based involvement. Wade (1988) countered Dumont by showing that commonalities in ecological

conditions, and the risks of *not* cooperating can pull internally differentiated villages together in a (limited) version of Gandhi's "village republics." With the passage of the 73rd Amendment to the Indian Constitution, through which financial, and administrative power is increasingly to be devolved to village-based organizations, this debate has been revived. Béteille (2002) wrote that nostalgia for the village is a long, and dubious tradition in India, and that the new enthusiasm for "villageism" should be a tempered one given the deep divisions wrought by assets, caste, and gender.

In our study communities, internal heterogeneities, and power asymmetries were indeed manifest in the differing principles underlying similar practices. For instance, some respondents viewed equal cost allocation as a means to keep the village united, and not lose membership, while others, like the landless castes, saw cost sharing as an opportunity to gain membership. Moreover, the specific means of deriving symbolic capital, as well as the ability to convert it into economic capital, was dependent on an individual's position within community—a position mediated by factors such as gender, caste, and land location. But though there was some stratification in responses along these axes it was neither consistent nor pronounced. The differentiated understandings, abilities, and aspirations all converged in the same practice of equal cost allocation.

The consistent ability of the residents of Ramwas, and Shergarh to identify with the village as a unit, and beyond their own specific strata demonstrates the communities' cohesion—these are, without doubt, communities, and not simply diverse collections of interests standing in different relationships of power. The community is, for many, an important economic, and symbolic resource, and community members work to preserve it, for example, through equal cost sharing in village projects. We find that a community may not be homogeneous, and may be neither a simple entity nor a moral economy, but we do not conclude that the "community" can best be understood by deconstructing it. Rather we find, and attempt to understand, a continuing sense of community despite heterogeneity.

We argue that the objections to simplifying community that critical CBNRM scholars have rightly raised should not be overly generalized. Where villagers themselves treat community as a valuable symbolic resource, development agencies such as TBS can be meaningfully engaged at a community level without inevitably concealing existing heterogeneities, or cementing the status quo. Here village institutions are not only a means of relating to external communities, and acquiring external resources—they have important internal meaning as well. Communities, and their perceptions of equity, of fairness, and of themselves are rooted in continuing asymmetries, and in fears of exclusion, but these may be inextricable in practice from the value placed on membership, and dignity, and from the environmental imaginaries of communities. The equity literature needs to account more fully for these perceptions.

7. CONCLUSION

In this paper, following Bourdieu, we find that resources are simultaneously sources of economic as well as symbolic value, and that all these sources of value are relevant to assessing whether a resource allocation regime is equitable. We show that because the acquisition of symbolic capital through cost sharing, and not just resource sharing, can provide significant benefits, the assessment of equity depends not only on the state of having but also on the act of giving. We also find that

understanding a community's environmental imaginaries is critical to understanding what is of value in the use of natural resources, and therefore of what might be accepted as equitable in that community.

Our main critique of discussions of equity in the CBNRM literature specifically, and in the development literature more broadly is that they evaluate equity almost exclusively through the distribution of the (material, and symbolic) outputs from a resource (Anand & Sen, 2000; Kabeer, 2001; Kumar, 2002; Lal, Singh, & Prasad, 2006; Walle, 2002). In the rainwater harvesting literature, equity is likewise focused on the many benefits to be derived from increased water supplies, such as improved health, and income; the potential for village self-sufficiency from maintaining its own water sources; the transformation of women's lives through reduced labor burdens; and the ability of family members who had migrated to return to work in newly productive fields. [25] The literature tends to ignore benefits that may arise from the mode of cost allocation considered independently of project outcomes. This is not to say that project outcomes are unimportant, quite the contrary. But when cost allocation is relegated exclusively to the realm of economic practice, it is seen only as a burden, rather than a potential source of symbolic capital.

Bourdieu cautions that maintaining power through common ideologies depends on the use of power not being recognized as such, but as legitimate claims on the services of others (Bourdieu, 1977, p. 164). It could be argued that the cash, and labor contributions of the poor toward a project that disproportionately benefits the wealthy—all in the name of religious duty, and village unity—appear to support Bourdieu's theory that misrecognition is simply masking the interests of the elites. However, the insistence of these non-elites on individual dignity, and participation in the face of fully recognized asymmetries would argue that the equal contribution norm is not a pure case of Bourdieu's misrecognition.

For non-elite respondents equal cost allocation provided a path to symbolic, and potentially economic, capital. It is this capital, in part manifested as a legitimate aspiration to greater equality, that validated as equitable the otherwise unequal burden of cost sharing in Ramwas, and Shergarh. The role of cost sharing as a marker of equity was only revealed, however, through the process of uncovering community perspectives on equity. Thus this research argues for the need to assess community perspectives of equity—an element necessarily missing from universalized treatments of equity. The works of political, and moral philosophers from Marx to Sen have helped governments, and development agencies to conceive, and translate particular sets of priorities into program designs. But no framework is portable everywhere, and there is no substitute for a grounded understanding of equity from community perspectives. Without this complement, the aspirations, and practices of community members cannot be understood, and therefore equity goals cannot be meaningfully addressed. The challenge is thus not how to *define* equity; the challenge is how to be responsive to the many different instantiations of equity that will be encountered in development contexts.

If this process reveals a tension between community, and practitioner understandings of equity, there are a variety of ways that this might be resolved. Options could range from participatory action research in the community to reassessing practitioner goals. But such potential resolutions cannot be realized without a robust understanding of community perceptions of equity, and of the values reflected in these perceptions. As in Ramwas, and Shergarh, these perceptions may be rooted simultaneously in the desire for inclusion, and the fear of exclusion, in the claim to equality, and the knowledge of inequality. Indeed, if equity is to be a key element in development projects, it is precisely in those cases where tensions exist between community, and practitioner conceptions that an understanding of the community position is the most imperative. In this paper, we have argued that these perspectives of equity must be grounded in a wide rage of opinions on both symbolic, and economic attributes of a project, on both the input, and output side.

NOTES

1. To protect individual identities, and to comply with the University of California's Office for the Protection of Human Subjects guidelines, the names of the villages, and villagers in this study have been changed. All interviews for this research were conducted in Hindi, usually in the presence of a Hindi-speaking research assistant. The quotes in this paper are all translations.

2. The water harvesting structure, or *johad*, is a low wall made from mud, or cement. To capture rainwater, the check dam is located in the flow of monsoon runoff where it pools rainwater, and increases the amount of time that water spends in that location. Hydrostatic pressure recharges the water table, and alleviates the effects of future droughts.

3. Annual rainfall in the study region averages approximately 60 cm—average for the state, but low compared with the rest of India (110 cm) (Mishra, 1995). Ninety percent of this falls during the monsoon months of July–September.(Singh, 2001). Adult literacy in the villages (40%) is low compared with the rest of the rural Rajasthan (55%) (Government of India, 2001). Scheduled tribes comprise 90%, and scheduled castes comprise 10% of the population (compared with 13%, and 17%, respectively, in Rajasthan) (Government of India, 2001). The two study sites, located one kilometer apart from each other, have a similar geography, and geology. Yet the catchment system in one is much larger than the other (four hectares in Ramwas, compared to 0.3 hectares in

Shergarh). Although both are Meena-caste villages, 20% of the households in Shergarh are comprised of non-Meena-castes. Both these differences could conceivably affect perceptions of equity. Yet their similarities provide a common framework within which their practices, and motivations can be understood.

4. This time frame ensured that the projects were new enough that respondents would be able to note changes, but sufficiently established so that practices related to the *johads* were routine.

5. Tarun Bharat Sangh, a leading rainwater harvesting organization in India, has been revitalizing *johads* in eastern Rajasthan for over 20 years. TBS organizes villagers to construct, and use harvested rainwater structures, but does not decide who will donate the labor, and how much each household should contribute. TBS's mission, and methods are not unique. The focus on community-initiated development, the requirement of women's participation in decision-making, a return to indigenous technologies, opposition to big dams, and opposition to water privatization—these are all prominent objectives in both the community development literature, and the activities of many international, and Indian-based non-governmental organizations. The development agency in this study, and its interaction with villagers are thus representative of the broader community-based rainwater harvesting movement.

6. Rs 100 is equivalent to two days of male labor for hard tasks such as rock-breaking, and just over three days of ordinary field labor. In 2004/2005, Rs. 43 = US $1, approximately.

7. See for example the publications of Centre for Science, and Environment (www.cseindia.org) and (http://www.rainwaterharvesting.org/people/Fashioning-change.htm); also Global Rainwater Harvesting Collective (http://www.globalrainwaterharvesting.org/).

8. Irrigation is primarily used for winter crops, namely wheat and mustard. Wheat is the more water- and labor-intensive crop, requiring five irrigations, and many days of weeding per *bigha* (1/4 hectare) (undertaken mostly by women). The diesel expense of irrigation constitutes 65% of the total cash inputs for wheat. Mustard, on the other hand, requires one irrigation, and no weeding. A successful wheat yield is Rs. 13,000/*bigha* (including the value of by-product), compared with Rs. 10,000/*bigha* for a good mustard yield. The high diesel expense prevents wheat from consistently being profitable, but it remains the preferred crop due to its role as a staple in the diets of both villagers, and their livestock. Also, mustard is more vulnerable to damage by frost, and animals.

9. Of the 110, 94 explicitly mentioned domestic animals, and 50 explicitly mentioned jungle animals. There was no correlation between mentioning jungle animals, and landholding status, or caste.

10. In Shergarh, because not all castes have land, we designed the community center scenario in order to include a project whose benefits would be independent of land ownership.

11. When describing equal cost allocation, per household as opposed to per person is implied by the respondents themselves, and also in this study.

12. In regional TBS-sponsored meetings, rainwater harvesting is promoted primarily as an idea that supports village self-sufficiency, and resource sustainability. *Dharm*, or the well-being of jungle animals was not mentioned in any meeting that we attended.

13. *Rajasthan villagers demand closure of Coca-Cola plant* (http://www.indiaresource.org/news/2004/1015.html).

14. For instance, TBS leads the villagers in songs that reinforce the sense of village unity. One such song says:" We are the people living in the village, let's increase the pride of the village." (*Gaon ke hain hum rahanewaale, gaon ka maan badhaye hum*).

15. With respect to water, in particular, religious traditions have discriminated against the lower castes whose homes, and water sources the higher castes considered, and often still consider, ''impure.'' Mehta (2000) described her fieldwork in rural Gujarat where water remains a symbol of purity, or pollution, and a source of continuing caste differentiation.

16. The *panchayat* is an elected village-level local government body.

17. Cf. Sen's capability approach in which having choices is itself a ''valuable part of living'' (Sen, 1992, p. 41).

18. The low-caste (non-Meena) members of Shergarh are the only residents of either village not to own land.

19. The expectation of exclusion was corroborated by, for example, this landed-caste respondent, who did not want contributions to cost to be proportional to benefits: "If they [the landless] are exempt from the *johad*, then who will allow them to come? Those who give will be in a position to speak."

20. Both our anonymous reviewers asked for clarification on the extent to which the gains from equal contribution were material *versus* "only" aspirational, and whether our analysis implied a "trade-off" between the material, and the symbolic. As we argue throughout the paper, the gains are indeed both material, and aspirational, but it is difficult to disentangle the two. The landless residents derive some of the same material benefits as other villagers, such as the use of the *johad* water for themselves, and their animals. They also derive benefits from village unity, such as being able to make a stronger claim to village-based resources such as firewood. Without land, this is the limit of direct material benefits that they can derive from this project; they do not sacrifice material benefits for the sake of additional symbolic benefits.

21. The remaining 25% mostly thought that it would be fairer to exempt the poorest based on their economic distress ("From where will they give?"). In practice in Shergarh the landless are not forced into annual contributions to the *johad*, but many offer regular labor contributions towards maintenance (this claim could not be verified, Shergarh had no written records of actual contributions, and the landed respondents varied in whether they thought that the landless had actually contributed, or had been excused from doing so). What is important here is the significant majority of landless who *wanted* to give either cash, or labor, and to be asked to give equally, and the majority of the landed who accepted the aspiration to equality that this desire stood for.

22. This explanation is quite distinct from the arguments made by Scott (1976) who attributes village cooperation to community-wide moral economy considerations, or Wade (1988) who argues that village-wide cooperation emanates largely from the collective risk of not cooperating. It may be worth noting that, unlike some communities in which caste distinctions have historically been pronounced, caste-based conflict in Shergarh is relatively low. Caste distinctions continue to exist, but historical barriers to casual socializing, or drinking tea together are gradually eroding.

23. However, Li (1996) notes that such strategic simplifications can advance the claims to the commons of otherwise disadvantaged groups over the claims of centralized, and often oppressive state authorities.

24. For the range of critiques of local-centric, and undifferentiated notions of community in conventional CBNRM research also see Leach, Mearns, and Scoones (1999), Goldman (1998), Mehta (2002), Johnson (2004).

25. For a brief review of these arguments, and the rainwater harvesting agency literatures from which they were selected see *Community-based solutions to water, and sanitation challenges: Rainwater harvesting* (IBLF, 2004); www.iblf.org

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