

Helping to self-help? External interventions to stimulate local collective action in Joint Forest Management, Maharashtra, India

C. BARNES and F. VAN LAERHOVEN

Copernicus Institute of Sustainable Development, Utrecht University, Heidelberglaan 2, 3584 CS Utrecht, the Netherlands

Email: c.a.barnes@uu.nl and f.s.j.vanlaerhoven@uu.nl

SUMMARY

The governance of community forests requires that resource appropriators overcome collective action dilemmas. Often, forest communities appear unable to do this. External actors then present themselves to help. Inducing the organization of communities through external actors is common practice in development efforts in general, and in community forestry programs, in particular. Does external-agent involvement affect the likelihood of durable collective action at the local level? We apply criteria associated with durable collective action to six communities in Maharashtra, India, with varying levels of external-actor involvement in the organization of *Joint Forest Management* committees. Our results show that although there is a (weak) correlation between external-agent involvement and expected durability of local collective action, such interventions do not appear to straightforwardly lead to the emergence of durable forms of collective action in communities where it didn't previously exist.

Keywords: common pool resources, collective action, NGOs, Forest Department, Joint Forest Management (JFM)

Aider à l'auto-assistance? Des interventions externes pour stimuler l'action collective locale dans la gestion commune des forêts, Maharashtra, Inde.

C. BARNES et F. VAN LAERHOVEN

La gouvernance de forêts communautaires nécessite que les utilisateurs des ressources surmontent les dilemmes d'action collective. Souvent, les communautés forestières en semblent incapables. Des intervenants extérieurs se présentent alors pour aider. Inciter l'organisation de communautés à travers des facteurs externes est pratique courante en ce qui concerne les efforts de développement en général et plus particulièrement dans les programmes de forêts communautaires. Est-ce que la participation d'agents externes affecte la probabilité d'action collective durable au niveau local? Nous appliquons des critères associés à l'action collective durable à six communautés à Maharashtra, Inde, avec des niveaux variables d'implication d'intervenants extérieurs dans l'organisation de comités de gestion conjointe des forêts. Nos résultats montrent que bien qu'il y ait une corrélation (faible) entre la participation d'agents externes et la durabilité attendue d'actions collectives locales, des interventions de la sorte ne semblent pas franchement aboutir à l'émergence de formes d'actions collectives dans des communautés où cela ne préexistait pas auparavant.

Apoyar la ayuda propia: Intervenciones externas para estimular la acción colectiva local en el manejo de bosques comunitarios en Maharashtra, India

C. BARNES y F. VAN LAERHOVEN

Para el manejo de los bosques comunitarios es necesario que los usuarios resuelvan dilemas de acción colectiva. A menudo, las comunidades forestales parecen incapaces de hacerlo. En estas ocasiones, actores externos se prestan a ayudar a las comunidades en el proceso. De hecho, inducir la organización de las comunidades a través de intervenciones implementadas por actores externos es práctica común en esfuerzos de desarrollo en general, y en programas de manejo de bosques comunitarios en particular. ¿Influyen las intervenciones de agentes externos en la durabilidad acción colectiva a nivel local? En este artículo, aplicamos criterios asociados con la acción colectiva sustentable en seis comunidades de Maharashtra, India, con niveles variados de intervención externa en la organización de los llamados Comités de Co-gestión (*Joint Forest Management*). Los resultados demuestran una correlación (débil) entre el involucramiento de actores externos y la durabilidad esperada de la acción colectiva local. Sin embargo, las intervenciones implementadas por los actores no parecen resultar de manera automática en la emergencia de acción colectiva en comunidades en donde no existía previamente.

INTRODUCTION

Attempts to scale-up lessons-learned about local-level common pool resource (CPR) governance are caught up in a dilemma: These lessons-learned generally point towards a community's *self-governing capacity* (Agrawal 2001). A community's ability to overcome collective action dilemmas¹ is pivotal to staying clear of a tragedy of the commons (Van Laerhoven 2010). However, the scaling-up of these lessons-learned – e.g. by means of government policies facilitating self-governance (see for example Blomley and Ramadhani 2006) – generally affords certain roles to *external agents* in the implementation. There is an obvious tension between the 'self' in 'self-governance' and the apparent need for external interventions to implement wide-scale CPR governance policies.

To what extent can durable forms of collective action in a context of CPR governance be stimulated by external agents? Both academics and practitioners have not yet seriously embarked upon this question. On the one hand, commons scholarship seems preoccupied with *self-governance*. Traditionally its focus has been on showing that Hardin was wrong and that CPR appropriators do not always need outsider-assistance in order to stay clear of the *tragedy of the commons* (Ostrom 1990). On the other hand, for the external agents themselves – i.e. donors, NGOs, and state agencies – organising communities around the governance of CPRs is often at the heart of what they do (e.g. Shukla and Sinclair 2010).

CPR scholars seem increasingly better able to predict when group efforts to govern the commons are likely to fail or succeed. Unfortunately, these insights do not always translate easily into intervention strategies for external agents. The commons literature mostly focuses on resource and community attributes and on institutional arrangements (Ostrom 2005) in explaining the degree of success in governing the commons. However, only a small set of what Agrawal (2001) calls "*critical enabling conditions for sustainability on the commons*" (p.1659) are manipulable through external interventions. For example, if "*group size*," lack of "*homogeneity of identities or interests*" or the absence of "*appropriate leadership*" stand in the way of organising CPR self-governance arrangements by means of collective action, then an external agent cannot be expected to mend the situation, easily.

External agents have a lot of experience in supporting grass root organisation but unfortunately, their track record in starting collective action where it didn't previously exist, is rather poor. Their modest results are used as the basis of an argument for *more* external involvement. This often means *more* training and resource transfers (Berdegué 2001, Hellin *et al.* 2009), even when theory implies that collective action dilemmas have hardly anything to do with lack of skills, knowledge or means (R. Hardin 1971). External agent involvement per se is not fundamentally questioned (but see Mansuri and Rao 2004).

Scholars and practitioners need to begin looking more critically at whether and how collective action can be kick-started and durably developed through external interventions. In this paper, a framework is proposed for the assessment of durable local collective action. The goal of this paper is to study if and to what extent durable collective action can be argued to relate to the form and level of external agent involvement in a community.

The framework is subsequently applied to the *Joint Forest Management* (JFM) policy in India. Under the JFM policy, collective action should be taken by the forest users in the form of JFM committees (JFMCs), to determine and enforce rules on forest management. JFM presents an interesting case for the purpose of this paper as it grants a formal role to local Forest Department (FD) agents in supporting local JFMCs and in addition NGOs are afforded both a supportive role in motivating and organising village communities, and a brokering role between the FD and local communities (Baruah 2011, Martin and Lemon 2001, Sundar 2000). Across India, the number of NGOs involved in JFM is growing (Kudva 2005). This focus on JFM is timely as it has now been in operation across India for twenty years, thus there has been sufficient time for external agents to develop a role in supporting JFMCs in their collective action endeavours.

STUDYING THE COMMONS

CPRs generate finite, subtractable resource units. Preventing potential users is difficult though not impossible (Ostrom 1990). Hardin (1968) argues that the individually rational strategies of CPR users lead to a collectively irrational outcome. In his view, individuals are trapped in a situation where overexploitation is the standard and where an external authority is needed to impose rules – either regulation or privatisation – in order to prevent resource collapse. However, since the 1980s, a vast amount of empirical research has successfully challenged this limited view on CPR governance (Van Laerhoven and Berge 2011). Under certain conditions local user institutions can pose a viable alternative to externally imposed rules (Dietz, Ostrom and Stern 2003, Ostrom 1990). The research frontier has moved beyond the goal of proving that Hardin was wrong, but focuses instead on determining the limits of self-governance of CPRs (Berge and Van Laerhoven 2011).

What have we learned so far about governing the commons well? In broad strokes, we know more or less what institutional arrangements must look like in order to take a shot at long-lasting success. Ostrom (1990) proposed a number of what she calls 'design principles' for CPR institutions (see table 1). These are essential conditions taken from empirical research that help to account for success in sustaining CPRs and gaining compliance of the rules over generations.

¹ A collective action dilemma is characterised by the fact that it would be best if everybody engaged in collective action (e.g. restrain individual harvesting from a forest, or help out patrolling the forest), but each individual is usually better off to try to free-ride and let others provide the good. However, if all or most people free-ride, the good is not provided.

TABLE 1 *Design principles for CPR institutions*

1	Clearly defined boundaries
2	Congruence between appropriation and provision rules and local conditions;
3	Participation of resource appropriators in decision-making;
4	Effective monitoring by monitors who are part of or accountable to the appropriators;
5	Graduated sanctions for resource appropriators who violate community rules;
6	Conflict resolution mechanism that are relatively cheap and easily accessible;
7	Minimal recognition of rights to organize for communities of resource appropriators
8	Organization in the form of multiple layers of nested enterprises

Agrawal (2001) arrives at a total of 35 factors that are claimed to be relevant to the successful governance of the commons. He groups these factors into four clusters of variables that follow the building blocks of the *Institutional Analysis and Development* (IAD) framework (Ostrom 2005) (see table 2).

Some of the variables mentioned by both Ostrom and Agrawal are more relevant for initiating rather than sustaining collective action (e.g. forests provide multiple benefits to users and appropriators have access to sufficient resources to initiate collective action). However in general the list of conditions relate to both the emergence and sustainability of collective action.

The underlying reasoning exposed in the commons literature is that institutions crafted by appropriators which include rules that limit resource use and provide systems for monitoring and sanctioning can be successful. The ability of communities to successfully craft such rules, and enforce them varies and therefore variation in communities' ability to solve collective action dilemmas can be observed. Commons scholarship does not seem to be very optimistic about the ability of external agents to assist communities to solve their collective action dilemmas, i.e. to help organise local people so that they

can develop their own solutions to these dilemmas. Indeed, a high level of autonomy and discretion in decision making is one of the original design principles which has been supported by further research (Sekher 2001, Van Laerhoven 2010, Vedeld 2000).

SUPPORTING COLLECTIVE ACTION IN THE COMMONS

In contrast to the commons literature, NGOs, donors and government agents appear to think that local collective action *can* be induced. Induced organisation of communities is a common practice in community forestry, for example in Nepal (Agrawal and Ostrom 2001), the Philippines (Duthy and Bolo-Duthy 2003) and in Mexico (Bray *et al.* 2006). JFM is also based on this model.

Outsiders are reported to have made a difference. Ito *et al.* (2005) found that awareness of the *Collaborative Forest Management* (CFM) policy in Nepal was least where there was no NGO support. Saigal (2000) found in a village in Gujarat, India, that the most forest-dependent and poorest groups were not included in JFM until a local NGO became involved. Matta and Kerr (2007) found that the pooling of FD and NGO resources and personnel in Tamil Nadu, India, improved both the forest condition and livelihoods.

However, arguments that any positive benefits brought by external agents are short-lived are also found. Sundar (2000) questions the assumption that all NGOs are better equipped to work with local people in conducting research on local conditions. Also, enthusiasm for JFM has been found to decrease after the immediate gains from entry point activities (such as employment in creating plantations) are no longer felt (Saigal 2001). There is a difference between helping people to organise and being a mere source of funding. External agents' interventions primarily based on *funding* community activities, rather than on helping to organise communities, have been found to *undermine* durable collective action. For example, Saigal (2001) found that enthusiasm for JFM often decreases after the immediate gains from entry point activities (such as employment in creating plantations) are no longer felt. Also Brown and Ashman (1996) found that successful NGO-led development programs are those that do not require long term resources for their sustainability.

TABLE 2 *Critical enabling conditions for sustainability on the commons* (Agrawal 2001)

	Clustering principles	Examples of variables
1	Characteristics of the resource system	Size, predictability of responses to interventions, and mobility of the resource units
2	Attributes of the user group	Group size, poverty rate, social capital, and leadership
3	Rules-in-use, or institutional arrangements	Complexity of the rules-in-use, ease of enforcement, and accountability mechanisms
4	External environment	Technology, market and state

A FRAMEWORK FOR THE ASSESSMENT OF COLLECTIVE ACTION

What does collective action among local actors governing the commons, look like? According to Poteete and Ostrom (2004) examples of functioning collective action are characterized by the following indicators: (i) *regular meetings*, (ii) *the presence of rules on entry, harvesting and monitoring*, and; (iii) *the presence of a system to enforce the rules*. These three indicators are used to measure part of the variation on our output variable – i.e. the *occurrence* of collective action.

These indicators are necessary but by no means sufficient for durable forms of collective CPR governance. What are the characteristics of forms of collective action that can be expected to sustain over a longer period of time? From the literature review summarised in table 3, it appears that in broad strokes, sustainable forms of collective action are characterised by knowledgeable actors that have management

and communication skills, plus sufficient material and financial resources. These indicators will be used in our research to measure another part of the variation on our output variable – i.e. the durability of collective action.

METHODOLOGY

A comparative case study design is used for the application of the framework. It is hypothesised that the level of involvement of the external agents positively influences the expected durability of collective action of forest users under JFM. To test this hypothesis the four cases in which the level of external-agent involvement in JFM implementation varied are compared (see table 4). We have selected our cases based on maximum variation in perceived external agents' involvement, not on the form this involvement takes. The four cases were selected from a total of eight villages visited in Gondiya

TABLE 3 *Framework for measuring functioning and expected durability of collective action*

Indicator	Explanation	References supporting the indicators	
Indicators of functioning CA			
1	Meetings	Resource users have set up a meeting structure – formal or informal - and meet on a regular basis to discuss CPR governance	(Poteete and Ostrom 2004)
2	CPR appropriation rules-in-use	Resource users have crafted a set of rules regarding CPR use	(Poteete and Ostrom 2004)
3	Monitoring rules-in-use	Resource users have set up a monitoring mechanism to enforce CPR appropriation rules	(Poteete and Ostrom 2004)
Indicators of durability of CA			
4	Level of understanding	Actors – resource appropriators as well as external, intervening actors – understand the amendments, entitlements and responsibilities that are stipulated in the state policy concerning the CPR	(Ghate 2009; Nayak and Berkes 2008; Pai and Datta 2005)
5	Level of awareness	All CPR users – not just the committee members – are aware of the activities of the committee and the rules it issues	(Ansonga and Røskafta 2011; Cundill and Fabricius 2009)
6	Level of inclusion of all CPR users	All CPR users are meaningfully included in the activities and decisions of the local organisation that governs the commons	(Agrawal 2001; Baland and Platteau 1996; Martin and Lemon 2001; Nagendra and Ghate 2005; Poteete and Ostrom 2004; Rydin and Pennington 2000; Sundar 2000)
7	Level of perceived management capacity	Participants are confident that they have the ability to continue their collective action – e.g. within a JFM committee – without depending on external agents	(Ballabh, Balooni, and Dave 2002; Ostrom 2005; Regmi 2008)
8	Level of connections	Participant in collective action are connected with external agents and other communities of CPR users which will allow for knowledge transfer in both directions, concurrence on conflicts of interest, the building trust and reciprocity	(Baland and Platteau 1996; Ngwa and Fonjong 2002; Ostrom 1990; Ostrom 2005; Putnam 1993; Woolcock 1998)
9	Financial and material resources	Participants in collective action need sufficient (access to) financial and/or material resources to operate.	(Chirwa <i>et al</i> 2005; Devaux <i>et al</i> 2009; Markelova and Mwangi 2010)
10	Level of confidence in future benefits	Participant in collective action are confident that their actions will benefit them in the future	(Agrawal 2001; Baland and Platteau 1996; Ostrom 1990)

TABLE 4 Sample selection strategy

Level of FD involvement	High	B: JFM self initiated High FD involvement Low NGO involvement	A: JFM self initiated High FD involvement High NGO involvement
	Low	C: JFM initiated by FD Low FD involvement Low NGO involvement	D: JFM initiated by NGO Minimal FD involvement High NGO involvement
		Low	High
	Level of NGO involvement		

forest division, Maharashtra. Informal individual discussions with the local FD officials and/or NGO representatives were present, and a group discussion with members of the JFMC and other interested villagers allowed for case selection based on the level of external agent involvement as perceived by external agents and villagers.

In addition, two cases of external actor involvement where JFM failed to take root were used as a comparison (cases E and F). Case E was selected as it falls under the responsibility of the same Range Forest Officer as cases A and B and the Deputy Conservator of Forests stated that FD involvement was significant, yet it was understood that JFM was not functioning. Therefore it provides an opportunity to learn whether the same FD officials had any influence on the non-functioning of CA. Case F was selected as the NGO working in cases C and D was involved in this village. This allows the ability to compare whether the same NGO not only had any influence on the functioning of CA in C and D, but also whether they had an influence on the non- functioning of CA in case F.

In order to isolate the influence of external agents on collective action the other groups of variables identified by Agrawal (2001) that influence collective action are held as constant as possible in the case selection strategy (see table 5). Namely, variation in the forest type, the forest users, the interpretation of the rules given in the Government Resolution, and the distance of the villages to markets. The rules for JFM given in the Government Resolution can be interpreted differently across forest divisions within the same state. Therefore by conducting the research within a single forest division, we reduce the possibility that this affects our results. We recognise that collective action in the context of JFM does not take place in isolation (see Balooni *et al.* (2010) and Manor (2004)). Therefore we also list other ongoing related projects and policy programmes.

Table 6 provides an overview of the indicators used to operationalise our framework.

Fieldwork was conducted in Salekasa and Nawegaon, two forest ranges in Gondiya division, which is located in the Vidarbha region of Maharashtra (see figure 1). Forests are widely used in this area as important sources of fodder, fuel wood, food, medicinal herbs and construction materials plus

as land for cattle grazing. In addition, forests provide daily wage labour opportunities and profit making opportunities through the sale of forest produce (Nilsson 2008). The locations below range level are kept confidential and the respondents anonymous.

Data on the indicators was collected using a qualitative approach. Between August and November 2009, semi-structured interviews were conducted with NGO management and staff and FD officials at district level down to round officer level. Per case two group discussions were conducted with JFMC members (during which at least 4 members were present) and at least one group discussion was held separately with non members of the JFMC (attendance fluctuated but a minimum of 10 villagers, mostly men, were present). Where possible, individual interviews were conducted with non JFMC villagers (average of 6 per village). NGO training sessions to villagers (on lac production, on setting up self-help groups and on issues with JFM) and NGO workshops for FD officers on forest protection were observed. NGO and FD meetings with the whole village were also attended. In this way both triangulation of sources and methods allowed for data to be corroborated. In addition, information was gathered on the employment background of the FD and NGO staff, the training or advice they had received from superiors, the training material they worked with and any communication or site visits with counterparts involved in successful cases of JFM elsewhere. Analysis of program documentation, annual accounts, JFM reports and the microplans for all cases of functioning CA provided background information on the socio-economic situation in each village. Some villages had records of rule infringements, minutes of JFMC meetings and records of accounts which could be used to validate data gained from group discussions.

JFM BACKGROUND

The introduction of the Indian National Forest Policy of 1988 marked a policy shift towards decentralised forest management with a central place for participation of local communities in the development and protection of forests (Kumar 2002). In 1990, a circular issued by the Ministry of Environment and Forests (Ministry of Environment and Forests 1990) marked the beginning of JFM. JFM is, at least on paper, extensive across India. As of 2011 there are more than 100,000 JFMCs comprised of 23 million people managing 22 million hectares of forest, which represents 28% of total forest area. In 2005 in Maharashtra, there were 11,799 JFM committees governing a forest area of 2,685,000 ha (Pai and Datta 2005) which represents over 40% of all forest area (Forest Survey of India (FSI) 2005). In some cases existing village level forest protection committees (FPCs) set up by villagers concerned about deforestation, were converted into JFM committees (JFMCs).

The 1990 circular prescribed certain rules for JFM. Two committees should be formed: i) the executive committee (JFMC) and ii) the general body. The JFMC is comprised of a maximum of 11 elected members of which one is a member

TABLE 5 General characteristics of the case studies

	Case study A	Case study B	Case study C	Case study D	Case E (non-functioning 1)	Case F (non-functioning 2)
Village population	1,258 persons; approx. 227 households; 3 wards	1,200 persons; approx. 162 households	821 persons; approx. 165 households	722 persons; approx. 136 households	665 persons; approx. 139 households	Approx. 600 persons
Caste	Other Backward Classes	Mostly Other Backward Classes	Other Backward Classes	Scheduled Tribes and Other classes	Backward Classes, Scheduled Caste, Scheduled Tribe	Backward Classes, Scheduled Caste, Scheduled Tribe
Average land size	2 ha (no households with more than 5 ha)	Wide range including farmers with >5 ha	< 1ha	< 2ha	–	–
Occupation	App. 80% farming (rice); 20% wage labour	App. 98% farming (rice)	App. 75% farming (rice) and daily wage labourers	App. 75% farming (rice) and daily wage labourers	App. 75% farming (rice) and daily wage labourers	Mostly rice farming (with some livestock)
Forest type & condition	Degraded tropical dry deciduous forests	Degraded tropical dry deciduous forests	Degraded tropical dry deciduous forests	Degraded tropical dry deciduous forests	Degraded tropical dry deciduous forests	Degraded tropical dry deciduous forests
JFM forest – area	71.3 ha	120 ha	60ha plantation	120ha plus an 85ha mixed plantation	n.a.	23ha of barren land
JFM forest – dominant species	Padas trees - used to cultivate <i>lac</i>	tendu (the leaves are used to make local cigarettes and sold), mahua (fruit used for making alcohol), bera (fruit) and sagwan teak	Grass (for fodder), sagwan teak (<i>Tectona grandis</i>) and bamboo	Plantation of bamboo, sagwan, and several fruit species (aula, bera, baja, saja).	n.a.	n.a.
Other forestry activities	20ha plantation of bamboo, sagwan teak, amla (<i>Embllica officinalis</i>) and sewan (a local name for a type of timber).	No plantation under JFM. There is a plantation under a different Social Forestry (FD) scheme.	n.a.	n.a.	30ha plantation under JFM of bamboo, teak, Khair and Aula fruit	n.a.
Current development programs	17 SHGs run by NGO 3 women's savings groups Government development program (<i>gram vikas</i>) Midday meal scheme	Plantation- Social Forestry scheme <i>Harilayi project</i> (Government run water management scheme) Integrated child development scheme	No other development projects from either the government or an NGO	<i>Harilayi project</i> (Government run water management scheme)	No data available	No data available

TABLE 6 Operationalisation of indicators

Indicators of functioning CA		Operationalisation
1	Meetings	Frequency of JFMC and general body meetings
2	CPR appropriation rules-in-use	Rules on entry, harvesting, monitoring and sanctions
3	Monitoring rules-in-use	Norms and formal monitoring systems for checking the forest and reporting rule violations to the JFMC or FD
Indicators of durability of CA		Operationalisation
4	Level of understanding	Evidence of conscious compliance with the JFM policy (for example in meeting frequency, crafting of rules, setting up two bank accounts) Actions taken by actors to provide, gain or disseminate information on JFM
5	Level of awareness	Awareness amongst JFMC and non JFMC villagers of the existence of JFM, the JFMC members, frequency of meetings, content of rules and fine levels. Actions taken by actors to increase awareness of JFM amongst villagers
6	Level of inclusion of all CPR users	Level of participation in microplan, in devising rules, in general body meetings Actions taken by actors to increase inclusion in JFM amongst villagers
7	Level of perceived management capacity	Level and source of technical and management skills and villagers' perceptions of their ability to manage JFM independently Actions taken by actors to increase technical and management skills amongst villagers
8	Level of connections	Density (number of connections) of the network, centrality of actors in the network, frequency, form, purpose and direction of connections between actors
9	Financial and material resources	Amount, source, form and long-term reliability of resources
10	Confidence in future benefits	Views on forest change under JFM, satisfaction level amongst non JFMC villagers of the JFMC, conformance with rules on forest use, presence of external threats to forest, agreement on sharing between FD and JFMC of future benefits from forest improvements Actions taken by actors to support or increase transparency of JFMC

of the *gram panchayat* (village council) (Mahanty *et al.* 2009) and one is an ex officio representative of the FD in the position of secretary. The JFMC should meet at least monthly and to conduct any work, at least 6 members must be present, of which 2 must be women. The general body is comprised of all the adults in the village who are willing to be a member, of which 33% should be women. The general body should meet at least twice per year. The land allocation procedure is led by the FD's *Assistant Conservator of Forests* (ACF) who selects the forest land within 5 km of the village to be allocated to the JFMC. Initially allocation was limited to degraded forest land (Saigal, 2000; Kumar and Kant, 2006) and even though subsequent circulars from the Government of Maharashtra in 2000 and 2003 have allowed for the inclusion of good forest (40% forest cover or more) (MoEF, 2011), allocated forest land often remains of poor quality. Ownership of the land under JFM remains with the FD (Kumar and Kant 2006). Two accounts are set up: one containing the savings from government and one containing any income generated by the JFMC. The making of a 10 year microplan is facilitated by the FD and villagers should participate in its creation (Bhattacharya *et al.* 2008). The JFMCs' responsibilities include managing the area allocated to them and the microplan activities. The JFM members have usufruct rights to take all subsistence NTFPs from the forest excluding *tendu* leaves and cashew. The FD is able to dissolve the JFMC if they are found to break

the laws of the forest acts. JFM has been criticised due to its prescriptive nature, which does not allow for flexibility on the ground (Martin and Lemon, 2001). This leads to a lack of regard for heterogeneous, hierarchical and conflict-ridden communities; rather it is assumed that communities are composed of stable families with an identifiable relationship with the forest resource (Sundar, 2000). It is important to recognise that communities are not static and isolated (Kumar, 2002) and that local variations in caste, class, tribe, religion, gender and age can affect dependencies on forest resources and incentives to participate in collective action (Paul and Chakrabarti, 2011; Van Laerhoven and Andersson, 2013).

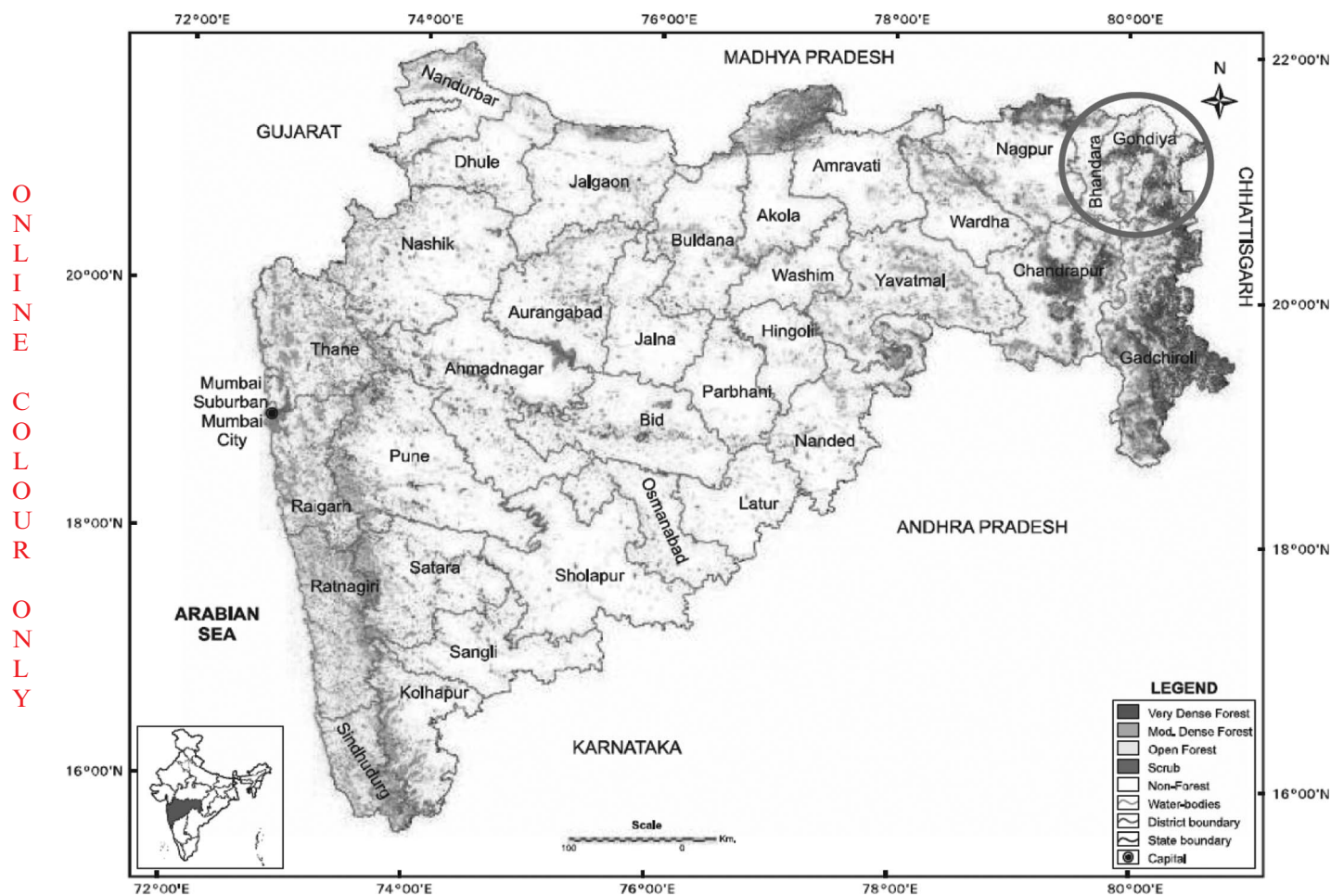
From the background presented here it is possible to derive that both the lower quality of the land allocated to communities and the top-down nature of JFM affording limited participation and rights to the JFMC and community, could adversely affect the incentives and possibilities for collective action at a village level.

RESULTS

The case studies

Case A concerns a village where forest conservation was self-initiated. Over the past 25 years, the condition of the local

FIGURE 1 Study area: Maharashtra state – Gondiya division



Source: Forest Survey of India, State of Forests Report 2005 (<http://www.fsi.nic.in>)

forest has slowly deteriorated – according to the villagers due to their own overuse. In 2001 villagers initiated a forest protection committee (FPC) with 15 members. Initially, the FPC protected 28 ha through a rotational grazing system, rules on forest use and sanctions for rule breakers. This initiative was eventually converted into JFM in 2005 by the Round Officer (RO). This case is characterised by *high FD* and *high NGO* involvement.

In case B, forest conservation was also self-initiated with the support of the village council. Villagers linked the forest degradation with their own over-felling of teak trees. Their FPC, started in 1995, counted 21 members including members from surrounding villages. The village council gave the FPC the authority to make rules on forest use and impose fines for rule violations. This initiative was eventually converted into JFM in 2004 by the RO. This case is characterised by *high FD* and *low NGO* involvement.

In case C, forest conservation fell firstly under the responsibilities of the village council. In 1998, a separate FPC was formed by the forest users under which forest rules were crafted and a forest guard employed for certain periods of the year. In 2003, the FD assisted with converting the FPC to a

JFMC. In 2008, the forest division boundaries were altered and this village was placed under the responsibility of a different forest division. This case is characterised by *low NGO* and *low FD* involvement.

In Case D, forest conservation under JFM was initiated in 2004 by a regional environmental NGO. At that time, the FD had set rules on forest use, only permitting villagers to take small twigs and dry leaves. However, hunting and illicit felling formed an increasing problem. A village meeting was held to elect the JFMC and craft rules on forest entry, forest use, monitoring and sanctioning. The RO assisted with registering the JFMC but was rotated soon after. Since then, FD involvement has been modest. This case is characterised by *high NGO* and *low FD* involvement.

The NGO involved in cases A and B works in rural development across several states in central India. It has an agreement with the FD through the Rashtriya Sam Vikas Yojana (RSVY) central government policy to develop self help groups in lac production in the villages. The NGO has carried out activities in case A beyond lac production, which involves working with the JFMC and more generally in rural development and agricultural training. The villagers themselves do

not make a clear differentiation between the various rural development programs. In case B their activities are limited to supporting women's self-help groups.

The initial work of the NGO involved in cases C and D was limited to biodiversity conservation. The NGO working in cases C and D has a long history of working in this area whereas the NGO involved in cases A and B has more recently moved to the region.

The following section gives the results of the research into the presence of each of the indicators for functioning and durable collective action for each of the cases, and analyses the influence of external agents on these indicators.

Functioning Collective Action

In case A, the JFMC *met* twice per month and general body meetings were held at least once per year. The *rules* created under the FPC remained the same under JFM, only rule-violation fines have increased. A JFMC member *monitored* the forest on a daily basis. In addition, *lac*² farmers and the RO conducted regular checks. It was a community norm to report rule violations to the JFMC. One training session had been given by the NGO on forest monitoring techniques.

In case B, the JFMC *met* monthly and the general body met annually. The rules had been devised under the FPC. Under JFM, additional fines for illicit tree felling were installed, and the no-grazing rule was removed. The *rules* covered entry, harvesting and monitoring. Every 3 days, a JFMC member *checked the forest* for rule violations. In addition, the village-employed cow grazer also reported rule violations. The RO had helped register JFM but further external-agent involvement in the JFM functioning had been minimal. The NGO's remit was limited to facilitating Women's Self-Help Groups (SHGs) and therefore their direct involvement in JFM was minimal.

In case C, after the division change *meetings* stopped as the new RO failed to fulfil his role of secretary of the JFMC. JFM rules had been devised in a community meeting under the FPC and covered forest entry, harvesting and monitoring. Fines were determined in community meetings on a case-by-case basis. Every 3 days, a JFMC member monitored the forest. In addition, people from other villages and the village cow-grazer also reported on rule violations. Under the previous forest division the RO had provided record keeping skills. There had been no further external-agent involvement in the functioning of JFM.

In case D, JFMC *meetings* were held minimally once per month. General body meetings were held twice per year or annually. General village assembly meetings were also used to discuss JFM. *Rules* on entry, harvesting, monitoring and sanctions (rising for persistent offenders) had been established under JFM in 2004. A community norm on reporting forest crimes had developed. The NGO and FD were not directly involved in the establishment and functioning of the JFMC.

Sustainable Collective Action

Understanding of the JFM policy

In case A, interviews revealed that the RO was instrumental in providing information on JFM requirements. Understanding of the policy beyond basic knowledge was however limited. JFMC members did not have a detailed understanding of their rights, obligations, future entitlements or the roles of other actors. One villager stated that "the secretary from FD [the RO] comes and tells us to do things, but we want to check the rules for ourselves".

In case B, no JFMC elections had been held, no member of the village council was on the JFMC, there were no JFM bank accounts and general body meetings were held only annually. Respondents indicated that they had received information on JFM requirements from the previous RO. No other external agents, including the current RO, had exerted any influence on the level of understanding of the JFM policy amongst villagers.

In case C, JFM was generally not managed in accordance with the JFM policy: JFMC membership had not changed since 2003; no member of the village council was on the JFMC; only men attended the general body meetings, and since the division change in 2008, no general body meeting had been held. The limited information villagers received on the JFM policy was mostly through the previous RO. However, in 2009, the NGO arranged three workshops on amendments to Government Resolutions, guidelines or rural development acts and policies that affect the villagers, including but not limited to JFM.

In case D, the election of the JFMC members and drafting of the forest rules had both been undertaken by the village assembly, the village council leader was a member of the JFMC, the microplan was written through a participatory rural appraisal (PRA) exercise, JFMC meetings were held at least once per month, and records of meetings and fines were kept. However, there was also evidence of non-compliance with JFM policy. There were 15 JFMC members and they continued in their post unless objections against them were raised. The JFMC did not have two bank accounts and it was not clear whether general body meetings were held once or twice per year. The NGO was the dominant actor in providing information on the JFM policy to the villagers, through workshops and village-wide meetings.

Understanding of the JFM policy was medium in all cases but case C, where it was low. The FD played a significant role in increasing understanding in cases A and B, it played virtually no role in this respect in cases C and D. The NGOs did not play a role in this respect in cases A and B (where the FD fulfilled this task), and in case C. The influence of the NGO on this indicator was however significant in case D.

Awareness

In case A, awareness amongst non JFMC villagers ranged from completely unaware to an understanding that a JFMC

² *Lac* is a resinous secretion from a parasitic insect which inhabits the branches of trees mostly used for dye.

existed. A high-level FD officer remarked that: “Not all villagers need to be motivated [to protect the forest]. Ten is enough.” Indeed, discussions with the FD showed a general view of indifference towards low awareness levels of JFM amongst villagers.

In case B, most interviewees knew that the JFMC existed. Awareness of JFMC members and meeting frequency was more limited. The general awareness of the existence of rules and fines was fairly high. The previous RO had called a meeting to inform villagers of the need to comply with rules issued by the JFMC. According to the JFMC his involvement increased compliance with the rules.

In case C, respondents generally knew about the JFMC. However, more specific knowledge was limited. Generally, villagers did not know the meeting frequency nor could they name the JFMC members or the rules on forest use. The FD initiated plantation would probably have increased awareness of JFM as it provided the opportunity for paid employment. The NGO held meetings which included discussing JFM in a public space in the evenings and thus positively influenced awareness.

In case D, respondents could name several JFMC members and some rules. This awareness could be partly attributed to JFMC activities: Rules were made at a general body meeting and rules and fine amounts were initially made public through writing them on a wall in the centre of the village. The JFMC collaborated closely with the village council and their regular joint meetings were also open for villagers to attend. The NGO’s role in making the microplan using PRA spread awareness of JFM, which was also aided by their ten-year presence in the village. The FD’s involvement in the plantation also increased awareness through the employment it provided.

In cases A, B and C awareness of JFM and the JFMC was medium. It was high in case D. The FD hardly contributed to awareness-raising in any of the cases. In cases A and B, the NGO played a small role in this respect however, in case D, high awareness could be contributed to the work of the NGO.

Inclusion

In case A, inclusion of non JFMC villagers in rule- and decision making was limited. No active efforts were made by the JFMC or either external agent to try to encourage the more marginalised groups in the village to participate in general body meetings. When JFM was initiated PRA techniques were used for planning JFM activities, a direct influence of the NGO. Workshops and trainings organised by both external agents were limited to a few participants from the JFMC. No action was taken to disseminate information further amongst the villagers.

In case B, there was no village-wide participation in developing the microplan nor in rule making. Attendance to general body meetings was low. Non-JFMC villagers stated that they did not feel involved in JFM matters. Although no one seemed to be actively excluded from JFM, villagers were not actively encouraged to participate, either.

In case C, all villagers could attend the village meetings at which the fines were decided. However, participation of women at community meetings was limited. There was an ongoing discussion with the FD regarding the payment of plantation workers, with the integrity of the JFMC also being called into question. This negatively affected relations between villagers, the JFMC and the FD which in turn affected inclusion levels in JFM. The drawing up of the microplan was solely carried out by the FD. The NGO appeared to put more emphasis on including the villagers in discussions relating to the forest though they did not actively seek the inclusion of marginalised sections of society.

In case D, all villagers could participate in decisions on the crop species for the plantation, electing the JFMC and crafting the rules. Women attended general body meetings and participated actively in discussions. There were also 4–7 women’s SHGs set up by the JFMC with support from the NGO to develop income generating opportunities. The NGO aided this participation through workshops and continuous dialogue.

The level of inclusion in JFM matters is low in all cases but case D, where it is high. The low levels of inclusion correlate with low levels of influence of both external agents in this matter. The high level of inclusion observed in case D correlates with the impact of the NGO activities in this regard.

Perceived management ability

In case A, records were transparent, independent income generating activities were in place, and disputes about forest use were being resolved internally. However, this was already the case pre JFM under the FPC. Under JFM, both the FD and the NGO had provided much technical training on forest management. The NGO had also provided training on issues such as dispute resolution and the organisation of self-help groups.

In case B, JFMC members reported a high level of confidence in their management capabilities. They had made the village microplan independently of external support and had developed a well-enforced rules and fine system. However, records of fines and membership fee contributions were not clear. The previous RO had provided a wide range of technical and agriculture trainings however participation in these trainings was limited.

In case C, the JFMC asserted that their confidence to enforce the rules in a strict fashion had increased over time. However, their management capacity was undermined by a dispute with the FD over wages for plantation work. No external agent had provided training on either the technical aspects of forest management or management skills.

In case D, the JFMC had independently organized a forest monitoring system and succeeded in reducing illicit forest use. The JFMC president conferred that people used to be scared of the FD but increasingly felt able to directly raise issues with the FD. The high number of trainings from the NGO increased both the technical and management skills of the villagers. The FD provided record keeping skills through the RO in his position as secretary of the JFMC.

In sum, cases B and D possessed good management skills. In case C JFMC management skills were medium. The influence of the FD on perceived management skills appeared to be medium in all cases, except case C, where its influence appeared to be low. The message is mixed. The observation that management skills are perceived by villagers as being good does not seem to correlate with external agent involvement. However, note that involvement does not equal influence. An external agent can positively influence collective action by deliberately not getting involved (see discussion section).

Connections

In case A, the network of actors involved with JFM was fairly dense. Strong relations existed between the FD, the JFMC, and *lac* farmers. The position of the FD in the network was undermined due to frequent rotations. The NGO actors only indirectly interacted with the JFMC through the FD actors or through the *lac* farmers. The connections between the NGO and the FD were also weak. They had no regular meetings to coordinate activities. The inter-village workshops run by both the FD and the NGO provided an opportunity for increased contact between villages.

In case B a fairly low network density was found. The NGO seemed isolated. The RO interacted fairly frequently with both the JFMC and the non-JFMC villagers. After the previous RO was rotated in 2006, communication with the FD reduced. Trainings organised by the previous RO provided opportunities to connect with other villages, as did the sub-district (*tehsil*) level forest protection scheme committee set up by the FD.

In case C, network density was relatively high. The NGO enjoyed a central position in the network. FD actors communicated to the villagers through the NGO. The NGO gained this central position due to the poor level of direct communication between the JFMC and the FD.

Network density in case D was fairly low. The FD appeared isolated. There was very limited communication between the FD and the villagers, rather this usually occurred through the NGO. This placed the NGO in a position of centrality. Communication between the JFMC and the previous RO had been much more frequent. The village council was involved in the network through frequent communication with the JFMC and the NGO. Their long-term work in the village had led to strong social connections between the NGO staff and the villagers.

The level of actor connections in all cases can be typified as medium. The FD's influence on connection levels was high in case A, and low in cases C and D. The NGO's impact was low in case B, and high in case D. Thus, it is unclear if variation on this indicator correlates with variation in external-agent influence.

Financial and material resources

The JFMC in case A received regular income through the fines and the membership fees. The NGO consciously decided not to engage in the regular transference of financial

and material contributions. The FD had made considerable contributions in the form of a plantation and land.

In case B, the JFMC had a steady flow of income from the membership fees and fines which had been used to purchase a bull. The only financial contribution from the FD was the provision of books on medicinal plants. Here, the NGO also refrained from tangible contributions as part of their working strategy.

In case C, income from the membership fee had proven to be insufficient for the JFMC to pay the guard. The FD provided resources for the plantation and for the purchase of a speaker and decorations to be used for community events and rented out. The NGO had not provided resources.

The JFMC in case D received income from the membership fees and fines. The FD provided substantial financial support through investing in plantation-related activities. The NGO had consciously decided not to provide financial contributions.

All JFMCs had sufficient resources, except case C. In all cases, NGOs have consciously stayed away from creating dependencies through direct transfers. The FD's influence was mostly during the period when JFM was initiated, by means of setting up a plantation.

Confidence in future benefits

In case A, rules were seen as fair and villagers were satisfied with the JFMC. Furthermore, villagers stated that there was a very gradual improvement in forest condition. The FD invested in a plantation however there was no formal agreement between the JFMC and the FD stating how its future revenues will be divided.

In case B, villagers reported that they were satisfied with the improvements in the forest condition in terms of NTFP availability. There was no formal agreement on how future benefits from the forest will be shared between the FD and the JFMC.

In case C, there was a gradual increase in the abundance of some forest produce such as grasses, which the JFMC related to their own efforts in enforcing rules. Also here, there was no formal agreement on how the future benefits from the plantation will be divided between the FD and the JFM villagers.

In case D respondents unanimously reported that the JFMC were doing satisfactory work. Villagers stated that forest density was slowly improving and that there have been several tiger sightings. The forest quality baseline survey conducted by the JFMC with the support of the NGO allowed transparency in measuring changes in the forest and therefore entitlement to future benefits. However, the agreement between the FD and the JFMC on the sharing of future benefits from the forest had not been finalised.

Confidence in access to future benefits is medium to high in all cases, except for case C, where it is low. The low influence of external agents on this indicator in case B, did not prevent villagers from being relatively optimistic in this sense. The low level of confidence in case C could be correlated with the negative impact of FD involvement. The relatively high level of confidence in case D could be attributed to the

positive impact of the NGO. The negative influence of the FD can be seen in all cases by the lack of formal agreements on how future forest benefits will be shared.

Non-functioning collective action

In case E, JFM was registered by the FD in 2003. However, it was not until three years later that a village assembly meeting was called by the FD in order to elect the eleven members of the JFMC. By the time of our research, this JFMC had stopped functioning. This case is characterised by very little FD, and no NGO involvement.

In case F, efforts to start JFM were ongoing since 2005. However, a JFMC was still not formally registered at the time of our fieldwork. Case F has a low level of FD involvement and a moderate level of NGO involvement. Logically, because JFMCs were not functioning in these cases, a detailed analysis similar to the one performed on cases A to D could not be undertaken. However it can be stated that where the FD was involved in making the rules on forest use, this appears to correlate with a negative influence on the functioning of CA. In case F the NGO involved has not been able to progress an on-going discussion over land allocation between the FD and the JFMC. This is interesting as the same NGO involved in case F has been seen to have a greater positive influence on CA in cases C and D, a point we will return to in the discussion.

In tables 7 and 8 the results of the analysis are presented.

At first sight, it seems that there is a positive correlation between the influence that external agents exert and the observed ability of communities to overcome collective action dilemmas. The results of the cases with non-functioning JFM are interesting when we realise that the same NGO that seemed to have made a difference in case D, could not do so in case F. This makes us wonder whether success is determined by the intervention or by some quality inherent to the community itself.

DISCUSSION AND CONCLUSION

To what extent can durable forms of collective action in a context of CPR governance be stimulated by external agents? Although we acknowledge that our research design leads to obvious limitations that affect our ability to offer a definitive conclusion regarding the general and long-term impact of JFM policy, we are confident that our results bring important nuances to the current debate regarding the role of external agents.

Cases A (high FD involvement, high NGO involvement) and B (high FD involvement, low NGO involvement) score reasonably well on our outcome variable indicators. Case C (low FD involvement, low NGO involvement) scores poorly and case D (low FD involvement, high NGO involvement) scores very well. Can the observed variation indeed be explained by variation in the involvement, and subsequent influence of external agents?

The role of external agents in influencing the *functioning* of CA is minimal. They generally do not involve themselves in the day-to-day running of JFMCs. The only case where the FD did actively get engaged in JFMC operations concerns one of the non-functioning cases. External-agent influence on policy *understanding* was limited due to lower level staff in both the FD and NGOs not having a full understanding of the JFM policy themselves. The creation of the microplan, the FD entry-point activities and the support provided to the organisation of village meetings by the NGOs proved to be effective in raising *awareness* among villagers. Neither the FD nor the NGOs actively encouraged the *inclusion* in JFM affairs of those generally left out. FD or NGO support helped in setting up transparent record systems thereby increasing communities' *management skills*. The FD focused mostly on technical trainings whilst NGOs included management trainings too. The training quality depended on the skills and the resources of the organisations themselves. It was clear that both NGOs had the management skills to organise such trainings to be as beneficial and open to participation as possible. This was not the case with the FD. Workshops held by the FD and the NGOs helped to increase the inter-village *connections* of the JFMC-members attending. Rotation of staff in the FD greatly affected the relationships between staff and the villagers. This also affected the other indicators through the need to again develop a trusting relationship. The most common *source of income* was through memberships and fines. Further than entry level activities (the plantation in the case of the FD) there was little external-agent influence on this indicator. It was a conscious decision of the NGOs not to develop dependencies through financial transfers. A common element across all three cases with a plantation was that no formal agreement existed on how the future benefits will be shared between the FD and the villagers. This negatively affects the *confidence in future benefits*.

Fundamental questions regarding the actual ability of outsiders to initiate durable forms of collective action can be raised. Were the success cases successful thanks to the external agent's support, or would they have made it anyway? Are non-functioning cases faltering because of the kind of support they received (or failed to receive), or is there just nothing that can be done to get them going?

NGOs tend to work with communities that seem to have overcome the collective action dilemma on their own. NGOs often explicitly state that they only want to work with communities that have shown willingness to get organised and govern their CPR. This observation is congruent with the findings of Farrington and Lobo (1997). This practice seems to suggest that NGOs recognise the difficulties in kick-starting collective action in communities in which there is no prior history of working together. Although the FD appears to be mandated to work with all communities, in practice variation in their level of involvement with JFMC affairs in different communities is found. This selection bias obstructs our view on the isolated working of external-agent support as a variable explaining variation in expected durability of collective action. It was found that the same NGO that seems

TABLE 7 FD & NGO influence on local collective action

Indicator	CASE A High FD & High NGO involvement		CASE B High FD & Low NGO involvement		CASE C Low FD & Low NGO involvement		CASE D Low FD & High NGO involvement	
	Level of presence of indica- tor	Influence of external agent (FD/ NGO)	Level of presence of indica- tor	Influence of external agent (FD/ NGO)	Level of presence of indica- tor	Influence of external agent (FD/ NGO)	Level of presence of indicator	Influence of external agent (FD/ NGO)
FUNCTIONING COLLECTIVE ACTION								
1. Meetings	Present	None/ None	Present	None/ None	Present	Negative/ None	Present	None/ None
2. CPR appropriate rules-in-use	Present	None/ None	Present	None/ None	Present	None/ None	Present	None/ Medium
3. Monitoring rules-in-use	Present	Low/ Low	Present	None/ None	Present	None/ None	Present	Low/ Low
EXPECTED DURABILITY OF COLLECTIVE ACTION								
4. Level of understanding	Medium	High but decreased over time/ None	Medium	High/ None	Low	Low/ Low	Medium	None/ High
5. Level of awareness	Medium	Low/ Low	Medium	Low/ Low	Low- Medium	Negative/ Medium	High	None/ High
6. Level of inclusion of all CPR users	Low	Low/ Low	Low	Low/ Low	Low	Negative/ Medium	High	None/ High
7. Level of perceived management capacity	Medium	Medium/ Medium	High	Medium/ Low	Low	Negative/ Medium	High	Medium (through non involvement)/ High
8. Level of connections	Medium	High/ Medium	Medium	Medium/ Low	Medium	Negative/ Medium	Medium	Low/ High
9. Financial and material resources	High	High in beginning/ None	High	Low/ None	Low	Medium/ None	High	High in beginning/ None
10. Level of confidence in future benefits	Medium- High	Medium/ Medium	Medium	Low/ None	Low	Negative/ Medium	Medium- High	Medium/ High

to have been instrumental in setting up a successful JFMC in case D, did not appear to be able to replicate this success in case F. This suggests that it might not be outside assistance per se but rather feature(s) inherent to the receiving community that makes a difference. The NGOs' general working approach does not vary significantly across the villages they work with. Therefore the observed contrast between the success of NGO involvement in case D and the obvious lack thereof in case F, reveals that the performance of external agents' intervention models may be determined by time-and-place specific particularities.

'Involvement' does not necessarily equal exerting a positive influence. For instance, involvement can also consist of

a conscious decision on the part of the external actor to do little or nothing, with the explicit objective of not creating dependencies. This is in line with attempts to undermine the so-called Samaritan's dilemma that emerges when – upon realizing that the supporter places high value on the act of providing material as well as non-material support – the receiver finds relying on support to be the optimal strategy (Gibson *et al.* 2005). The NGOs in this study seem aware of dependency issues and refrain from transferring resources. The FD on the other hand, might see merit in the establishment of dependency relations. This type of involvement is found to have a negative influence on the expected durability of local collective action.

TABLE 8 FD & NGO influence on the absence of collective action

Indicator	CASE E Very little FD & No NGO involvement		CASE F Low FD & Moderate NGO involvement	
	Level of presence of indicator	Influence of FD	Level of presence of indicator	Influence of FD
FUNCTIONING COLLECTIVE ACTION				
1. Meetings	Not present	Negative	Not present	None
2. Forest-rules-in-use	Not present	Negative (rules devised by FD)	Not present	Negative (rules devised by FD)
3. Monitoring rules-in-use	Not present	None	Not present	None
EXPECTED DURABILITY OF COLLECTIVE ACTION				
4. Level of understanding	Low (no information on JFM available)	None	Low (no information on JFM available)	None
5. Level of awareness	Low (only aware of existence of committee)	None	Could not be analysed	None
6. Level of inclusion of all CPR users				
7. Level of perceived management capacity	Low (no functioning JFMC, no trainings)	Low (no training)	Low (no functioning JFMC, no trainings)	None (no trainings, no support)
8. Level of connections	Low (only connections with the new RO)	None	Low (Occasionally JFMC initiate contact about registration, also through NGO Village Coordinator)	Negative (do not initiate communication)
9. Financial and material resources	Low (no income)	Medium (one-time transfer of equipment)		
10. Level of confidence in future benefits	Low (no trust of FD or current JFMC, plus decrease in availability of forest produce)	None (no training, no support)	Low (no confirmation on area of plantation, no transparency of JFMC)	Negative
				Low (some liaising with FD but no positive result)

NGOs can compensate for lack of FD involvement. For example, when the RO doesn't attend meetings, in some villages this led to no JFMC meetings happening, whereas in the NGO-led case this didn't stop the JFMC from operating. Vice versa, it might be that the overstretched FD is not going to involve themselves in villages in which a well respected NGO is already working. There appears to be evidence of a crowding-out effect (Andersson and Van Laerhoven 2007). Also note that conflicts of interest and competition between the external agents could drive variation in their involvement (see Sundar, 2000).

Lastly, we observe that the external agents we studied seem to have a rather ad hoc and sporadic approach to stimulating local collective action. They hardly ever cover the entire spectrum of indicators that, according to the commons literature, are assumed to correlate with expected durability of collective action. Where external agents prove to have a more complete understanding of the elements that go into the setting up of durable forms of collective action, they appear to be more successful. We can assume that this knowledge is not gained directly from the commons literature.

This leads us to the question of how donor or government money can be spent more effectively. Based on our results some (modest) recommendations regarding collective action in JFM can be made, which would also be applicable to similar situations in which external agents aim to support local collective action in a common pool resource context. It is apparent that FD personnel at all levels should be better trained in the details of the JFM policy and in participatory techniques. In interviews, high-level FD officials stated villagers are not motivated to form JFMCs and protect the forest. Given the hierarchical structure of the FD, these views of the higher ranked officials will influence the lower level officials (Heltberg 2001). However, realistically it must be noted that the effects of working with the FD will be limited by institutional corruption (Corbridge and Kumar 2002). High level FD officials reported that there is no incentive for lower level FD officers to work with villagers as they will lose the income bribes collected from villagers entering the forest provide. Furthermore, structures must be put in place to avoid that the rotation of FD personnel leads to the wasteful destruction of knowledge capital. There should also be a clearer division of roles between the FD and NGOs, and this needs to be discussed with the villagers. The formulation of so-called exit plans and the avoidance of dependency are needed. The antagonistic relationship between the FD and the villagers needs to get greater attention from NGOs and the FD alike. NGOs could start looking to support collective action more indirectly by creating better enabling conditions, such as some of the conditions proposed in commons scholarship (e.g. Agrawal 2007).

This paper started by stating that the commons literature doesn't really cater to the needs of the 'development business.' The donor community invests billions of dollars into the support of local organisations. Mansuri and Rao (2004) estimate that the World Bank's portfolio of community based and -driven development projects approximates \$7 billion. The commons literature on how to do this most effectively isn't

very rich, with the focus instead being placed on the conditions of *self-governance*. Future research could explore the common ground between the commons literature and development practices further in order to advance our understanding of the extent to which external agents can support local level collective action.

ACKNOWLEDGEMENT

Special acknowledgement goes to the many people in Maharashtra who so kindly set aside so much of their valuable time to answer our many questions and patiently explain to us how things actually work on the ground. We are also very grateful to Rucha Ghate and everyone associated with SHODH: The Institute for Research and Development, Nagpur. We furthermore thank colleagues from the Copernicus Institute for Sustainable Development in Utrecht and participants in the "Scaling up lessons from studies of local forest governance in developing countries: The Implementation Challenge" session at the Planet under Pressure Conference in London (2012) for valuable comments on an earlier version of this paper. We also greatly appreciate the comments provided by four anonymous reviewers.

REFERENCES

- AGRAWAL, A. 2001. Common property institutions and sustainable governance of resources. *World Development* **29**(10): 1649–1672.
- AGRAWAL, A. 2007. Forests, governance, and sustainability: Common property theory and its contributions. *International Journal of the Commons* **1**(1): 111–136.
- AGRAWAL, A. and OSTROM, E. 2001. Collective action, property rights, and decentralization in resource use in India and Nepal. *Politics and Society* **29**(4): 485–514.
- ANDERSSON, K. and VAN LAERHOVEN, F. 2007. From local strongman to facilitator: Institutional incentives for participatory municipal governance in Latin America. *Comparative Political Studies* **40**(9): 1085–1111.
- ANSONGA, M. and RØSKAFTA, E. 2011. Determinants of attitudes of primary stakeholders towards forest conservation management: A case study of Subri forest reserve, Ghana. *International Journal of Biodiversity Science, Ecosystem Services & Management* **7**(2): 98.
- BALAND, J. and PLATTEAU, J. 1996. *Halting degradation of natural resources. Is there a role for rural communities?* Oxford: Clarendon Press.
- BALOONI, K., LUND, J.F., KUMAR, C. and INOUE, M. 2010. Curse or blessing? Local elites in Joint Forest Management in India's Shivaliks. *International Journal of the Commons* **4**(2): 707–728
- BALLABH, V., BALOONI, K. and DAVE, S. 2002. Why local resources management institutions decline: A comparative analysis of van (forest) panchayats and forest protection committees in India. *World Development* **30**(12): 2153–2167.

- BARUAH, M. 2011. *Joint forest management (JFM) and role of NGOs: Cases from Rajasthan, India*. Paper presented at the Thirteenth Biennial Conference of the International Association for the Study of the Commons, January 10–14, 2011, Hyderabad, India.
- BERDEGUÉ, J.A. 2001. *Cooperating to compete – associative peasant business firms in Chile*. Phd Thesis. Wageningen University, the Netherlands.
- BERGE, E. and VAN LAERHOVEN, F. 2011. Governing the commons for two decades: A complex story. *International Journal of the Commons* 5(2): 160–187.
- BHATTACHARYA, P., KANDYA, A.K. and KUMAR, K.N. (Eds.). 2008. *Joint Forest Management in India vol. 2*. Jaipur, India: Aavishkar Publishers.
- BLOMLEY, T. and H. RAMADHANI. 2006. Going to Scale with Participatory Forest Management: Early Lessons from Tanzania. *International Forestry Review* 8(1): 93–100.
- BRAY, D.B., ANTINORI, C. and TORRES-ROJO, J.M. 2006. The Mexican model of community forest management: The role of agrarian policy, forest policy and entrepreneurial organization. *Forest Policy and Economics* 8, 470–484.
- BROWN, L.D. and ASHMAN, D. 1996. Participation, social capital, and intersectoral problem solving: African and Asian cases. *World Development* 24(9): 1467–1479.
- CHIRWA, E., DORWARD, A., KACHULE, R., KUMWENDA, I., KYDD, J., POOLE, N., et al. 2005. Walking tightropes: Supporting farmer organizations for market access. *ODI Natural Resources Perspectives* 99: 1–6.
- CORBRIDGE, S. and KUMAR, S. 2002. Community, corruption, landscape: Tales from the tree trade. *Political Geography* 21(6): 765–788.
- CUNDILL, G. and FABRICIUS, C. 2009. Monitoring in adaptive co-management: Toward a learning based approach. *Journal of Environmental Management* 90(11): 3205–3211.
- DEVAUX, A., HORTON, D., VELASCO, C., THIELE, G., LÓPEZ, G., BERNET, T., et al. 2009. Collective action for market chain innovation in the Andes. *Food Policy* 34(1): 31–38.
- DIETZ, T., OSTROM, E. and STERN, P.C. 2003. The struggle to govern the commons. *Science* 302(5652): 1907–1912.
- DUTHY, S. and BOLO-DUTHY, B. 2003. Empowering people's organizations in community based forest management in the Philippines: The community organizing role of NGOs. *Annals of Tropical Research* 25(2): 13–27.
- FARRINGTON, J. and LOBO, C. 1997. *Scaling up participatory watershed development in India: lessons from the Indo-German watershed development programme*. Natural Resource Perspectives, Overseas Development Institute.
- FOREST SURVEY OF INDIA (FSI). 2005. State of the forest report 2005. retrieved on 03.05.2012 from <http://www.fsi.nic.in>.
- GHATE, R. 2009. *Decentralizing forest management: Pretense of reality?* Paper presented at the WOW-IV Conference, 3–6 June, 2009, Bloomington, IN.
- GIBSON, C.C., ANDERSSON, K., OSTROM, E. and SHIVAKUMAR, S. 2005. *The Samaritans' dilemma: The political economy of development aid*. Oxford, UK: Oxford University Press.
- HARDIN, G. 1968. The tragedy of the commons. *Science* 162(5364): 1243–1248.
- HARDIN, R. 1971. Collective action as an agreeable n-prisoners' dilemma. *Behavioral Science* 16(5): 472–481.
- HELLIN, J., LUNDY, M. and MEIJER, M. 2009. Farmer organization, collective action and market access in Meso-America. *Food Policy* 34(1): 16–22.
- HELTBERG, R. 2001. Determinants and impact of local institutions for common resource management. *Environment and Development Economics* 6: 183–208.
- ITO, K., OURA, Y., TAKEYA, H., HATTORI, S., KITAGAWA, K., PAUDEL, D., et al. 2005. The influence of NGO involvement on local people's perception of forest management: A case study of community forestry in Nepal. *Journal of Forest Research* 10(6): 463.
- KUDVA, N. 2005. *Uneasy relations, NGOs and the state in Karnataka, India*. Paper presented at the Karnataka Conference ISEC / Cornell University / the World Bank, June 10–12, 2005, Bangalore.
- KUMAR, S. 2002. Does “participation” in common pool resource management help the poor? A social cost–benefit analysis of joint forest management in Jharkhand, India. *World Development* 30(5): 763–782.
- KUMAR, S. and KANT, S. 2006. Organizational resistance to participatory approaches in public agencies: An analysis of forest department's resistance to community-based forest management. *International Public Management Journal* 9(2): 141–173.
- MAHANTY, GUERNIER, J. and YASMI, Y. 2009. A fair share? Sharing the benefits and costs of collaborative forest management. *International Forestry Review* 11(2): 268–280.
- MANOR, J. 2004. User committees: a potentially damaging second wave of decentralisation? *The European Journal of Development Research* 16(1): 192–213.
- MANSURI, G. and RAO, V. 2004. Community-based and –driven development: A critical review. *World Bank Research Observer* 19(1): 1–39.
- MARKELOVA, H. and MWANGI, E. 2010. Collective action for smallholder market access: Evidence and implications for Africa. *Review of Policy Research* 27(5): 621–640.
- MARTIN, A. and LEMON, M. 2001. Challenges for participatory institutions: The case of village forest committees in Karnataka, South India. *Society & Natural Resources* 14(7): 585–597.
- MATTA, J.R. and KERR, J. 2007. Barriers beyond the partners: Bureaucratic and political constraints to implementing joint forest management in Tamil Nadu, India. *Environment, Development and Sustainability* 9(4): 465–479.
- MINISTRY OF ENVIRONMENT AND FORESTS. 1990. Circular from Ministry of Environment and Forests to the Secretaries and the Principal Chief Conservator of Forests of all States and UTs Dated Entitled “Involvement of

- Village Communities and VAs in the Regeneration of Degraded Forest Lands* (no. 6.2 1/89-F.P.) Retrieved from [Http://www.Mahaforest.Nic.in/](http://www.Mahaforest.Nic.in/) on 05.03.2012, (1990).
- MINISTRY OF ENVIRONMENT AND FORESTS. 2011. Forest survey of India: State of the forest report 2011. retrieved on 03.07.2012 from <http://www.fsi.nic.in>.
- MINISTRY OF HOME AFFAIRS. 2011. *Census 2011 provisional population totals*. retrieved on 03.07.2012 from <http://censusindia.gov.in/>
- NAGENDRA, H., & GHATE, R. 2005. Role of monitoring in institutional performance: Forest management in Maharashtra, India. *Conservation & Society* 3(2): 509–532.
- NAYAK, P.K. and BERKES, F. 2008. Politics of co-optation: Community forest management versus joint forest management in Orissa, India. *Environmental Management* 41(5): 707–718.
- NGWA, N.S.E. and FONJONG, L.N. 2002. Actors, options and the challenges of forest management in Anglophone Cameroon. *GeoJournal* 57(1–2): 95–111.
- NILSSON, S. 2008. The Indian forestry system at a crossroads: An outsider's view. *International Forestry Review* 10(2): 414–421.
- OSTROM, E. 1990. *Governing the commons: The evolution of institutions for collective action*. New York: Cambridge University Press.
- OSTROM, E. 2005. *Understanding institutional diversity*. Oxford: Princeton University Press.
- PAI, R. and DATTA, S. (Eds.). 2005. *Measuring milestones: Proceedings of the national workshop on joint forest management (JFM)*. Ministry of Environment and Forests and Winrock International India.
- PAUL, S. and CHAKRABARTI, S. 2011. Socio-economic issues in forest management in India. *Forest Policy and Economics* 13: 55–60.
- POTEETE, A. and OSTROM, E. 2004. Heterogeneity, group size and collective action: The role of institutions in forest management. *Development and Change* 35(3): 435–461.
- PUTNAM, R.D. 1993. *Making democracy work. civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.
- REGMI, A. 2008. Self-governance in farmer-managed irrigation systems in Nepal. *Journal of Development in Sustainable Agriculture* 3(1): 20–27.
- RYDIN, Y. and PENNINGTON, N. 2000. Public participation and local environmental planning: The collective action problem and the potential of social capital. *Local Environment* 5(2): 153–169.
- SAIGAL, S. 2000. Beyond experimentation: Emerging issues in the institutionalization of joint forest management in India. *Environmental Management* 26(3): 269–281.
- SAIGAL, S. 2001. *Joint forest management: A decade and beyond*. Paper presented at workshop on policy implications of knowledge with respect to common pool resources in India, Delhi: Institute of economic growth.
- SEKHER, M. 2001. Organized participatory resource management: Insights from community forestry practices in India. *Forest Policy and Economics* 3(3–4): 137–154.
- SHUKLA, S. and SINCLAIR, A. 2010. Strategies for self-organization: Learning from a village-level community-based conservation initiative in India. *Human Ecology* 38(2): 205–215.
- SUNDAR, N. 2000. Unpacking the “joint” in joint forest management. *Development and Change* 31(1): 255–279.
- VAN LAERHOVEN, F. 2010. Governing community forests and the challenge of solving two-level collective action dilemmas—A large-N perspective. *Global Environmental Change* 20(3): 539–546.
- VAN LAERHOVEN, F. and BERGE, E. 2011. The 20th anniversary of Elinor Ostrom's governing the commons. *International Journal of the Commons* 5(1): 1–8.
- VAN LAERHOVEN, F. and ANDERSSON, K. 2013. The virtue of conflict: An institutional approach to the study of conflict in community forest governance. *International Forestry Review* 15(1)
- VEDELD, T. 2000. Village politics: Heterogeneity, leadership and collective action. *The Journal of Development Studies* 36(5): 105–134.
- WOOLCOCK, M. 1998. Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and Society* 27(2): 151–208.