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The Sustainability of Village Institutions under JFM

Some Issues Emerging from the Case Studies of the NGO Experiences from Gujarat, India

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ABSTARCT

This study is based on the Joint Forest Management experience from southern Gujarat (India) where an NGO had facilitated community initiatives in forestry over a long period preceding the official adoption of the JFM framework. The study is part of a larger effort supported by the Aga Khan Rural Support Programme (India) partnering several NGOs on the sustainability of village institutions. The paper provides an overview of the community initiatives facilitated by the AKRSP to meet the resource management challenges. This is followed by an overview of the theoretical framework used in the discussions on sustainability based on the works of eminent scholars. The findings from field studies are presented. The paper discusses several emerging issues in JFM such as the exit strategy of the NGO in the JFM context, the integration of existing village institutions crafted through community or NGO efforts into the JFM and the adequateness of community's forest resource needs from the JFM plots.

Keywords: Sustainability, Village Institutions, JFM, Natural Resource Management, and Gujarat, India

1 Introduction

This paper emerges from a multi-location study[1] supported by the Aga Khan Rural Support Programme (India) [AKRSP] partnering several NGOs on the sustainability of village institutions. The Village Level Organisations (VLO) studied was promoted by the AKRSP in

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1 The fieldwork was carried out in August – September 2005.

the tribal areas in Gujarat falling under the aegis of the Spear Head Team (SHT) based in Netrang, which is the nodal unit for the activities covering 225 villages under the three districts of Bharuch, Surat and Narmada. Within these talukas the interventions by AKRSP's are focussed on the areas dominated by the tribal communities. In the past, most people in the region including non-tribal communities were heavily dependent on forest resources in many ways for their livelihood. Till 2003 AKRSP had facilitated forestry efforts on 3086 ha of forestland and 704 hectares of revenue land (3790 ha). Of this, nearly 74% (78% of forestland and 55% of the revenue land) is under some form of protection by the community (Verma, 2005). The region receives high rainfall (more than 1200 mm per annum) and the forests in the region consist of mixed moist-deciduous and dry-deciduous types. The region belongs to the talukas affected by high levels of soil erosion (Geevan et al, 2002) and the districts of Bharuch and Surat are part of a region that has witnessed a general decline in dense forest category during the last three decades (Dixit et al, 2001).

2 Theoretical Considerations

The theoretical framework for the study of sustainability relies considerably on the large body of literature on institutional analysis (Ostrom 1990; Wade 1988; Uphoff 1982; North 1990; Baland and Platteau 1996). Their investigations are focussed on four themes: 1) Resource characteristics, 2) Group characteristics, 3) Institutional Arrangements and 4) Relationships between group and external forces and authorities such as markets, state and technology. The conceptual framework for examining local organisations in natural resources management has been presented in a concise review by Rasmussen and Meinzen-Dick (1995) of the theoretical and empirical literature on the institutional sustainability. A systematic checklist was prepared based on these theoretical literature and empirical studies. This framework was then applied to analyse the empirical observations and relate them to the design principles that impact sustainability of the village institutions. Interviews and discussions were conducted with the key stakeholders, members of the VI, office bearers of the VI, non-members, NGO staff, and NGO leadership.

3 Gram Vikas Mandal (GVM) – The Village Organisation in Focus & Study Villages

The Gram Vikas Mandal (GVM) was the main vehicle for entry-level activities as well as later interventions in forestry and soil-water conservation. The GVM is primarily envisaged as a multi-stakeholder, membership-based organisation that will bring about wise use of the natural resources thereby helping to enhance livelihood systems. The nurturing of the GVM and shaping it to meet the institutional needs of managing common property resources such as forests, common land, etc marks a phenomenal effort on the part of the AKRSP in attempting to develop sustainable village institutions. As of now, many of the GVMs promoted in the early phase are neither supported actively nor monitored by AKRSP.

Table 1: Glimpse of the 6 Villages Studied (Aug – Sep 2005)

AKRSP Cluster Office	Village	Start of Intervention	House-holds	Remarks	Forest Prot. (Ha)	SWC (Ha)
Netrang	1. Bharada	1994	90	Single social group	190	185
	2. Rajvadi	1995	300	Three tribal groups in nearly equal proportions	296	50
	3. Sakva	1989	88	Single social group	72	200
Dediapada	4. Kanjay	1995	58	Single social group	51	58
	5. Mulkapada	1991	250	Nearly 25% of Kotwaliya community of considered as of lower social standing by other tribal communities	30	148
Sagbara	6. Moti Nal	1996	386	Single social group	50	500

The interventions in the six villages included in this study cover forestry, watershed development, irrigation management, etc. These villages represent different situations – more general cases, as well those with specific features: social heterogeneity, special role of women's mobilization, remoteness of the village, final harvest problem, forestry, forestry plus SWC and/or watershed (Table 1). The functioning of the GVMs promoted by ARSP in six villages was studied through a multi-track approach that involved discussions with the AKRSP team, interactions with the villagers and field studies to ascertain the functioning of village level institutions.

4 Forestry Efforts

Central to the resource characteristics are its excludability (i.e., it is difficult to physically exclude potential users) and subtractability (i.e., increased consumption by one agent implies that less is available for others). These two characteristics of forests make it difficult to manage them effectively, and mean that they can easily become degraded through excessive use. Thus, the development of effective management systems for forests is a very important issue (Conroy, 2001).

In its early phase, the GVM was preoccupied with forestry, given the considerable dependence of the community on forests against the background of large-scale forest degradation linked to the massive clear felling in the region dictated by the government polices in the 1970s. The AKRSP began working in the region at a time when the forest resources had been degraded and the communities dependent on the forest resources had little incentive or options for helping in the regeneration or conservation. The flow of benefits was to be ensured in different forms, over different community managed patches and over various time frames.

Table 2: Characteristics of the Forestry Efforts in the Six Studied Villages (Aug – Sep 2005)

Villages	Village Level Organisations In Forestry	Community Forestry Area (*) in ha	Area Per House-hold (ha)	Year-wise Forestry (!) ha added (Year)	Final Harvest
Bharada	GVM (1994) VKS (1998)	190	2.1	50 (1994) 30 (1995) 20 (1996) 45 (1997) 30 (1998) 15 (2005)	Due & Waiting
Rajvadi	GVM (1995) VKS (2003)	296	1.0	55 (1995) 30 (1996) 61(1999) 50 (2001) 40 (2002) 50 (2003) 10 (2005)	Due
Sakva	Only GVM (1989)	72	0.8	45 (1989) 27 (1995)	Due & Waiting
Kanjay	Only GVM (1995)	51	0.9	20 (1995) 31 (2003)	Due & Waiting
Mulkapada#	GVM – 1991 (now – defunct)	0	0.0	30 (1992)	Denied
Moti Nal	GVM (1995) VKS (1998)	50	0.1	20 (1998) 30 (2004)	Not due

(*) Area under JFM or Community Forestry with or without AKRSP support; # No forestry efforts at present.
(!) Forestry plots added in different years: forestry started in different years result in diversity of age and species; includes both plots with Adikar Patra and those without formal permissions
VKS, the Van Kalyan Samiti (VKS) is the Forest Protection Committees (FPC) constituted as per the JFM guidelines

The details of the community efforts in forestry are given in Table 2. The extent of protection effort under each village varies a lot and seems to be somewhat unrelated to the demography of the village. Bharada has over 2 ha of forestry effort per household, while a very large village like Moti Nal (4.3 times the number of households in Bharada) has only 0.1 ha per household (i.e., 1/20th of Bharada), even though both the villages have community involvement in forestry. In the case of Rajwadi too, a village with more than 3 times the number of households than Bharada, the forestry plots available per household is half that of Bharada. It is possible that with certain approaches to livelihood improvements and resources management, the communities could significantly reduce their dependence on forest resources. Even in the best cases, this would be a very gradual process and in the short to medium term, a community traditionally dependent on forest would continue to have fairly high levels of such dependence. Therefore, it is necessary to recognise the importance of community efforts in forestry and the need for appropriate village institutions.

Van Kalyan Samiti (VKS), i.e., Forest Protection Committees (FPC) as per the JFM guidelines, has been set up in three out of the six villages studied (Table 2). In Bharada and Rajwadi, almost all the executive members of the GVM are also in the FPC. In the case of Moti Nal, there is no overlap of committee members from GVM and FPC. In Sakva, Knajay and Mulkapada, where there is no FPC, the forestry efforts were started in 1989, 1995 and 1991 respectively and the status of the claims of GVM members to final harvest is as follows: a) harvest of bamboo on 30 ha initiated in 1992 was denied to Mulkapada, b) due and pending in Sakva for one plot of 45 ha initiated in 1989 and c) due in Kanjay for one plot of 20 ha initiated in 1995. The denial of rights to Mulkapad triggered a tragic but entirely avoidable institutional breakdown.

In the case of Bharada and Rajvadi with a FPC, the rights to final harvest have not been granted and there has been no harvest, despite several representations and negotiations. In those cases where there is no FPC there is considerable ambiguity on the claims of the GVM on the final harvest. Our fieldwork shows that the parallel functioning of the FPC and VI, with or without overlapping committee membership, does not strengthen the norms fostered over a long period by the village organisation, particularly due to the change in the relations of the VI and FPC with the Forest Department. There seems to be lack of clarity on how to strengthen existing VIs that have demonstrated enormous capacity for institutional sustainability and integrate them into the JFM framework.

5 Forest Resource Flows & Succession of Forestry Efforts

The community forestry initiatives in the region were initiated by the AKRSP in the mid 1980's. Among the study villages, the earliest community forestry effort is of 1989 in Sakva village followed by Mulkapada in 1992 (Table 2). The six villages studied exhibit much variation in the progress of forestry. The forestry effort in Mulkapada village, one of the earliest to join the effort, however, was limited to just one. Sakva, Kanjay and Moti Nal villages had two, while Bharada and Rajwadi had 7 and 6 efforts, respectively. In terms of resource availability, a succession of forestry efforts, even if they are in small patches, has major implications.

As one forest patch on which regeneration work has been successfully carried out gets older, the flow of benefits undergoes major changes. In terms of the NGO support effort, the early phase involves plantation and other forestry efforts that provide employment and wage labour to the community. All rules/ norms are also strictly enforced in this period. As the trees grow and the canopy thickens, undergrowth of grass is inhibited, reducing the abundance grass and shrubs. Before the trees mature, there is plenty of green fodder available from the trees that are not too tall. However, once the trees become very tall, these are beyond the reach of both people and grazing animals. Some of the trees also serve as sources of fuel wood. The forest department, which regulates the access rights, permits

certain types of activities depending on the status of the regenerated forest. When there is no succession of forestry efforts, only the old mature trees that do not provide a mix of benefits are left.

Another important aspect of the community involvement in forestry is that the organizing effort serves as a pivot around which village level social mobilization activity gets organized. There is a flurry of activities involving the village organisation once a forestry effort is started. When there is a succession of such efforts, with or without the formal contracts or permissions, there are various stages of social capital development and the members of the village organisation goes through various levels of capacity building. Also, they have many opportunities to develop institutional capabilities vis-à-vis external agents and agencies.

When there is a succession of forestry efforts it results in several forestry plots of varying age, possibly with greater vegetation diversity mix as well. So long as there are forest tracts to regenerate and a proper schedule is followed, there will be community managed forest patches at different stages of growth. Once a patch is cleared for final harvest of timber, the cycle could start all over again. A series of forestry efforts provides the opportunity to alter the tree species mix to suit the ecological needs and match community's changing requirements.

The series of forestry efforts constitute experiences that transports the group involved in it through a huge learning process encompassing experimentation in social mobilization and institutional changes ultimately contributes of accumulating social capital. Therefore, the net outcome from a series of such efforts would be very different from a single effort, even if the single effort happened to be great success. In resource terms, a single JFM would inevitably tend to an over-emphasis on the final harvest, as there are no dynamic changes in the resource characteristics after the even age stand in the forestry tract under the single effort has matured. In the absence of any other managed forest resource, all hopes are pinned on the final harvest. The final harvest, however, is qualitatively very different from the regular and periodic resource flows. It is the long-term asset accrued from the forestry effort after testing the patience of the community for more than a decade. Despite the changes in policy environment, there is absolutely no certainty that the community will be accorded full rights to the final harvest.

When a series of forestry efforts is undertaken, with a gap of one or two years in between, besides the stimulus to social capital formation, there are multiple layers of benefits including the wage labour opportunity available from the plantation and the soil/water conservation activities being carried out in project mode. When we look at the data on these six villages all these aspects need to be kept in mind. For example, if we take the case of Rajwadi with a new forestry effort every year from 1999 to 2005, except 2000 and 2004, it is quite evident that a succession of forestry efforts has resulted in a rich stream of benefits. The community needs a mix of resources and with forest stands of different ages managed by the village organisation, diverse flows could be realized. Additionally, with each new forestry effort, the group also gets employment for about a month.

Once a decade or so has elapsed, the question of final harvest no longer remains a hypothetical one. It becomes a 'live' issue with the FD very reluctant to keep its word or honour the terms of the contract and pass on the benefits of final harvest due to the community. In the case of Rajwadi, the FD is in no hurry to resolve the question of final harvest. Instead, the community becomes party to adding more area under community initiatives in forestry. In the case of Rajwadi, despite reaching the stage of final harvest in 2003-2004, another 60 ha are added to the informal JFM. At the same time, many villages with active community organisations have no new formal or informal forestry effort. The Rajwadi village continues to work with the Forest Department despite the reluctance of the department to grant benefits of final harvest to the group. The impression from our field level

discussions is that the series of forestry efforts inhibits them from embarking on a confrontation with the department. The informal and formal forestry arrangements thus provide opportunities for the communities to engage in a dialogue with the department irrespective of the ambiguities regarding the fate of final harvest.

Our study indicates that considerable success has been achieved in the institutional sustainability under JFM achieved by the GVM model promoted by the AKRSP. The degree of development achieved, even in the worst case considered in the study – the Mulkapada GVM and the institutional issues associated with it – demonstrate that while the GVM has great strengths in terms of its role as a pan village institution, the issues of external linkages are far too complex in so far as the forestry is concerned. In this context, it must be emphasised that the sustainability of the GVM is delicately poised between the support it can get from an NGO and the unequal relations with the FD. This is the Achilles heel of the GVM and the least developed aspect of the institutional development in the JFM context. The GVM's capacities in the complex terrain of property rights, enforceability of contracts, negotiations with the state (represented by the Forest Dept.), etc are hardly sustainable given the internal deficiencies in technical and knowledge capacities. The relevance of GVM is two fold: one as a pan village institution not only for sustainable resource management, but also to ensure that a capable VI is present to leverage necessary arrangements with the external agents, inter-village, with an NGO and with the State.

It appears that the VI is inadequately equipped to deal with these qualitatively different issues on its own after the exit of the NGO. Our field studies indicate that there is need for a review of the exit strategy of the NGO in view of these difficult institutional challenges despite the high degree of institutional sustainability has been achieved through the systematic efforts in organisational development and capacity building of local communities. The fact that pan-village institutional forms have sustained without NGO support shows that are strong motivations for pan-village norms and inter-village negotiating arrangements dictated by the specific resources management challenges. The most critical aspect of institutional sustainability is the need for creating mechanisms necessary to mediate the linkages with external agencies. There is insufficient evidence to show that the current JFM framework addresses these issues.

6 Functioning of the GVM in Forestry

Among the study villages, the earliest forestry effort is of 1989 in Sakva village followed by Mulkapada in 1992. The six villages studied exhibit much variation in the progress of forestry efforts. The forestry effort in Mulkapada village, one of the earliest to join the effort, however, was limited to just one. Sakva, Kanjay and Moti Nal villages had two, while Bharada and Rajwadi had 7 and 6 efforts, respectively. In terms of both resource availability and institutional functioning, a succession of forestry, even in small patches, has major implications. Overall, among the villages studied, Bharada and Kanjay perform well, while Rajwadi and Moti Nal are moderate, Sakwa is low and Mulkapada represents a case of institutional breakdown triggered by factors external to the group. The crisis of leadership, collective action and institutional arrangements in Mulkapada revolves around the denial of final harvest rights over mature bamboo and handing over of the bamboo at a highly discounted price to a paper manufacturing company by the Forest Department. The external elements and the issue of usufruct rights, that is central to the co-management of forests owned by the State to be managed by the community, have clearly played havoc with the group and the institutional arrangements. This happened despite the fact that the Mulkapada GVM was considered to be functioning well before this crisis.

At a general level, the following observations are valid for most of the GVMs, including the one case of institutional breakdown discussed in this study.

- Appear to be well rooted in the community as functional entities with some exceptions
- Displays considerable adaptability to different situations
- Resource management challenges are specific to the JFM framework of co-management model and the implications of this on VI cannot be minimised for short or long-term benefits or usufruct rights
- More active and functional when there are a series of forestry efforts that ensures diverse resource flows/ benefits
- Impact of the presence of a multiplicity of organisations (SHGs, Federations, etc) is ambiguous with respect to GVM (both positive and negative)

The study shows that the GVM as a model of pan-village organisation presents a case where high degree of institutional sustainability has been achieved through the systematic efforts in organisational development and capacity building of local communities. It has also shown the enormous creativeness of the community to innovate and adapt resource management norms. This study suggests that the type of pan-village VLO promoted by AKRSP was an institutional need that got readily adopted and adapted to the community needs in conformity with the diversity of group characteristics and therefore became easily amenable to adaptation and change in the hands of the community.

7 Discussion

It is all too evident that both the usufruct rights and ownership rights are affecting the modes of group functioning, individual behaviour towards resource management, the role of external agencies such as the NGO and the resource itself. All these are important for institutional sustainability. The functioning of GVM in Bharada and Rajvadi clearly illustrates the case where the relative abundance of resources makes a positive influence on group cohesion, while the Moti Nal shows how the GVM has been able to bring members and non-members together for resource management despite the extremely small area assigned to the group for forest protection. At the same time Bharada and Rajvadi has also been fortunate to receive continuous cooperation from either AKRSP and/ or Forest Department, resulting in diverse flow of resources through a series of JFM efforts spread almost evenly over the last one decade. The scheduling of a series of forestry efforts emerges as an important insight. Also, it is evident that the selection of trees for forestry must keep in mind day-to-day forest resource needs of the community managing it and should not over-emphasise the final harvest. At another level, there are considerable possibilities for sustaining economic benefits through proper management of a diversity of trees under different multi-age forestry patches along with harvest of NTFP.

The sustainability of the GVM is delicately poised between the support it can get from an NGO and the unequal relations with the FD. The formal access rights to forest land or *adhikar patra* has been provided only to less than 50% of the area under different levels of community forestry The fact that major issues remain unresolved in this sphere is fully recognised by the AKRSP and has also been pointed out in other studies (Verma, 2005) commissioned by the AKRSP. However, this is the Achilles heel of the GVM and the least developed aspect of its development. It is a grey area that calls for more thought and action. The GVM's capacities in the complex terrain of property rights, enforceability of contracts, negotiations with the state (represented by the Forest Dept.), etc are hardly sustainable given the internal deficiencies in technical and knowledge capacities. The relevance of GVM is two fold: one as a pan village institution not only for sustainable resource management, but also to ensure that a capable VI is present to leverage necessary arrangements with external agents, other villages, the NGO and the State.

The case of institutional breakdown triggered by factors external to the group represented by Mulkapada and the series of pending final harvest question in four out of six villages studied and similar situations reported in other studies clearly raises questions about the whether the village institution can be considered to be capable of functioning on its own while being completely powerless to address this crucial issue. Also, there are no institutional arrangements that have been developed in a mutually agreeable manner enabling the NGO to join in as an arbitrator to resolve or negotiate the contentious problem of final harvest. Despite the enormous efforts that have gone into the capacity building and organisational development of the village organisations such as the GVM, it is evident that these are inadequate for negotiating the major issues such as that of usufruct rights in a fundamental way.

It is evident that many more issues need to be addressed for the true sustainability of village institutions under a co-management framework. In a sense, the so called 'long-term' sustainability under JFM must cover a minimum time frame that goes beyond the first final harvest and the sustainability need to be tested under the strain of resolving the final harvest problem. If a village institution promoted under JFM successfully negotiates this terrain, then it has to grapple with the next level of issues of how to manage and rationally use the benefits of the final harvest. In this study, we have not able to find sufficient evidence that the village institutions developed with so much effort are likely to succeed in this in the absence of appropriate institutional arrangements that provide for arbitration by civil society initiatives for a fair resolution of the usufruct rights of the community participating in the JFM. The institutional sustainability of village institutions as a just arrangement for community-based forestry in a co-management framework would necessitate a major redrawing of the institutional space involving external actors and the village institutions.

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9 References

Agarwal A (2002), "Common Resources and Institutional Sustainability", In The Drama of the Commons, Committee on the Human Dimensions of Global change. E. Ostrom. T. Dietz, N. Dolsak, P.C. Stern, S. Stovich and E.U. Weber (Eds) Division of Behavioral and Social Sciences and Education, National Academy Press, Washington DC

Baland, J.M. and Platteau, J.P. (1996), Halting Degradation of Natural Resources: Is there a Role for Rural Communities? Food and Agriculture Organization of the United Nations and Clarendon Press, Oxford.

Brown, B., Hanson M., Liverman D. and Meredith R. (1987),"Global Sustainability: Toward Definition", Environmental Management, 1: 713-719

Conroy, C. (2001) Forest Management in Semi-arid India: Systems, Constraints and Future Options, CRIDA/ CWS/ AKRSP(I)/ WRMLtd./ MSU/NRI, Common Pool, Resources Research Project Report No. 5, NRI Report No. 2656, Natural Resources Institute (UK)

Dietz T., Dolsak, N., Ostrom, E. and Stern, P.C. (2002), "The drama of the commons", in The Drama of the Commons, Committee on the Human Dimensions of Global change. E.

Ostrom. T. Dietz, N. Dolsak, P.C. Stern, S. Stovich and E.U. Weber (Eds) Division of Behavioral and Social Sciences and Education, National Academy Press, Washington DC.
Dixit, A.M., Geevan, C.P., and Silori, C.S. (2001) Status of natural terrestrial vegetation in Gujarat: A reassessment, Indian Forester 127(5): 533-546
Edwards V.M., Stein N.A., (1998), "Developing an analytical framework for multiple –use commons", Journal of theoretical politics, Vol 10, No 3, pages 347-383
Geevan C.P., Dixit, A.M. and Silori, C.S. (2002) Land Degradation in Gujarat: Problems, Challenges & Actions, Gujarat Ecology Commission, Vadodara
Honadle, G., and VanSant, J. (1985), Implementation for Sustainability: Lessons from Integrated Rural Development, Kumarian, West Hartford.
North, D.C. 1990. Institutions, Institutional Change and Economic Performance, Political economy of Institutions and Decision series, Cambridge University Press, Cambridge.
Oakerson R.J. (1992), "Analysing the commons: A framework" In D.W. Bromley, D. Feeny, M.A. McKean, P. Peters, J.L. Giles, R.J. Oakerson, C. Ford Runge and J.T. Thomson (Eds), Making the commons work: Theory, Practice and Policy, ICS Press, San Francisco.
Ostrom, E. (1988) Institutional arrangements and the commons dilemma,' in V. Ostrom, Feeny, D. and Ostrom, E. (ed) Rethinking Institutional Analysis & Development: Issues, Alternatives, Choices, Institute of Contemporary Studies Press, San Francisco.
Ostrom, E. (1990) Governing the Commons: the Evolution of Institutions for Collective Action, Political economy of Institutions and Decision series, Cambridge University Press, Cambridge.
Ostrom, E. (1996) Crossing the Great Divide: Coproduction, Synergy and Development, World Development, Vol. 24, No. 6, pp. 1073-1087
Rasmussen L and Ruth Meinzen-Dick (1995), "Local Organizations for Natural Resource Management: Lesson from Theoretical and Empirical Literature, EPTD Discussion Paper No 11, IFPRI, Washington DC.
Verma, M. (2005) Joint Forest Management in AKRSP(I)'s South Gujarat Programme Area: Issues, Challenges and Options. AKRSP(I), Ahmedabad, Research Series October 2005
Uphoff, N.T. (ed.) (1982) Rural Development and Local Organisations in Asia, vols. 1 & 2. Macmillian India, New Delhi.
Wade, R. (1988) Village republics: economic conditions for collective action in South India, Cambridge University Press, Cambridge.