

DECENTRALISED NATURAL RESOURCE MANAGEMENT : A STUDY OF WATERSHED DEVELOPMENT PROJECT IN THE STATE OF KARNATAKA

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ABSTRACT

The paper examines the practices and processes, and the role of principal actors in such processes striving to implement watershed development under Hariyali guidelines. More specifically, the paper aims at assessing the extent of autonomy that the institutions like gram panchayats have in the implementation of watershed development activities. An important lesson that emanated from the analysis is that no institution or organisation — be it a panchayat, a NGO, a government department, or a CBO — can work in isolation. Hence, it is necessary to create complementarities among these formal and semi-formal governing institutions for addressing different needs and aspirations in natural resource management.

Introduction

Decentralisation has been a key concept in progressive reform strategies in the developing countries for promoting qualitative governance (Villadsen 1999). It can contribute to an increased quality and quantity when it comes to service delivery and public participation and, it has come to be viewed as a solution to many of the strategies of governance. This is particularly true in the case of management of natural resources in developing countries. The natural resource management (NRM) is claimed to be particularly well suited to local democratic control through decentralisation because it is based on the requirement of specific knowledge, involves the reliance of rural communities on natural resources for their livelihoods. Decentralised planning and implementation of natural resource management, along with the effective involvement and participation of local institutions and communities, have been receiving importance and publicity in recent times (Baumann and Farrington 2003, Kumar

2007). Any reform initiated in this direction purportedly increases resource user participation in NRM decisions and benefits by restructuring the power relations among central, state, local governments and communities through the transfer of management authority to local-level organisations. The NRM is generally referred to the management of natural resources such as land, water, soil, plants and animals, with a particular focus on how management affects the quality of life for both present and future generations.

Watershed management is a policy response to the increasing environmental crisis leading to non-sustainability in agriculture, especially in dryland/ semi-arid regions (Shah 2006). Further, it is concerned not only with stabilising the soil, water and vegetation, but also with enhancing the productivity of resources in ways that are ecologically and institutionally sustainable (Farrington *et al* 1999). This apart, the participation of the community members or beneficiaries, as a collective voice, in the

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watershed management is seen as the most crucial aspect (Deshpande and Narayana moorthy 1999) and is almost a guiding principle for achieving the project goals.

With the passing of the 73rd Constitutional Amendment, much emphasis has been laid on the decentralisation strategy since it is believed that decentralisation of power to the local units of government and management is one of the best ways of empowering the people, promoting public participation and increasing efficiency. The PRIs, as legally established institutions, possess statutory and constitutional rights and the mandate for natural resource planning (Farrington 1999, OIKOS and IRRR 2000) has identified some positive aspects of PRIs for handling, planning and implementing common property resource (CPR) activities. According to him, the panchayats have the potential to integrate watershed management into wider development activities. Further, they have the capacity to draw the services of line departments, have powers to levy and collect taxes and more importantly, they have the powers to prepare development plans according to the people's wishes. All these attributes make a strong case for involving the panchayats in planning and implementing CPRs, specially the watershed development programme in a decentralised natural resource management (DNRM) framework.

Focus of the Paper: Hariyali guidelines leave ample scope for the process to be all-inclusive, participatory, transparent and accountable. More importantly, the planning and implementation of watershed development activities is entrusted directly to the panchayats, especially the gram panchayats. Set in this backdrop, the focus of the study is to examine what is happening on the ground in terms of practices and processes and the role of principal actors in the implementation of the guidelines. More specifically, to study the nature and impact of these guidelines (with the involvement of panchayats) in achieving the goals of watershed development programmes.

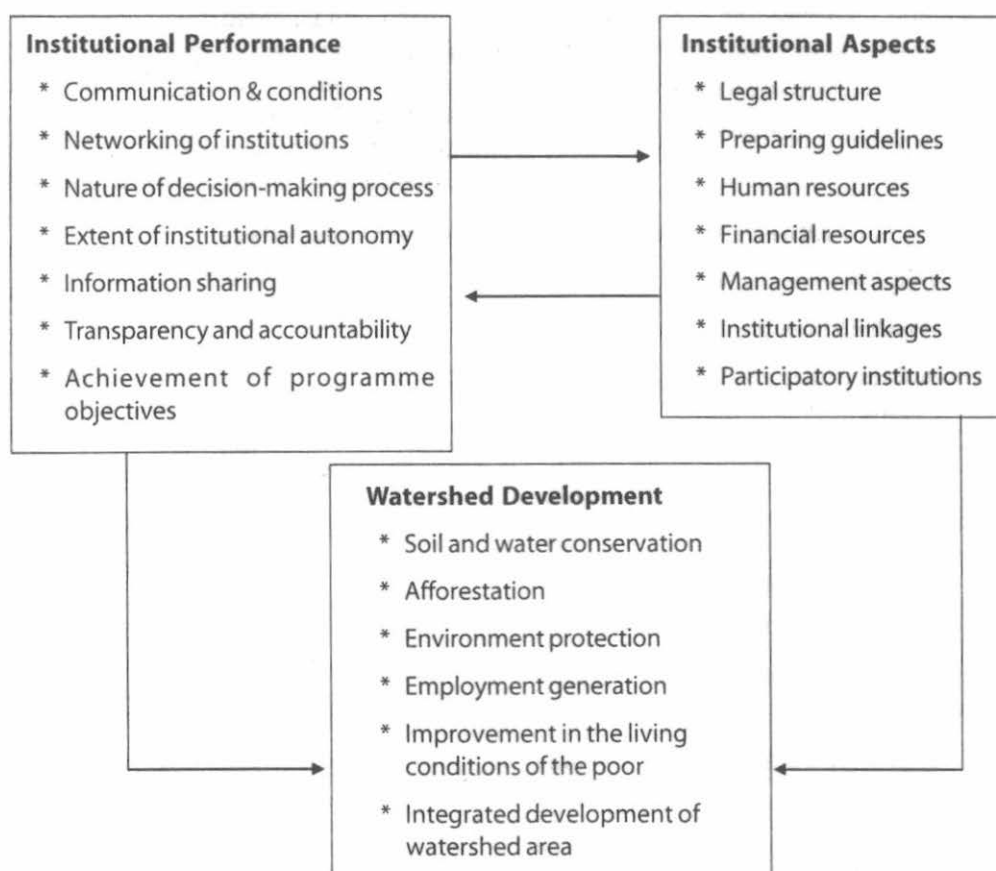
Institutional Framework for Assessing the Implementation of Watershed Development Programme: An institutional framework for understanding the implementation of watershed development projects was developed to analyse plan formulation and plan implementation of watershed programmes under the *Hariyali* guidelines. The framework delineates both institutional requirements and their desired levels of performance for achieving the objectives of the watershed development as enumerated in the guidelines. The institutional aspects help understand whether an institution like gram panchayat, coming as it is under a basic legal structure, has assured access to human, technical, financial resources and its management systems. The institutional performance provides an opportunity to assess the performance of not only the panchayats and but also of other participating institutions and organisations in achieving the programme results effectively, using their institutional and technical resources.

Methodology

Keeping in view the research issues and the conceptual and analytical frameworks, the following objectives are framed, which are interrelated in nature.

1. To critically examine the implications of the *Hariyali* guidelines for implementing watershed development activities
2. To study the organisational strengths (institutional and administrative innovations, strategies and measures) and constraints of the panchayats and other associated institutions in implementing watershed development projects
3. To examine the vertical and horizontal linkages in facilitating the project implementation process and
4. To document the clientele perspective with regard to project implementation and benefits.

AN INSTITUTIONAL FRAMEWORK FOR IMPLEMENTING WATERSHED DEVELOPMENT PROJECT



In order to analyse the objectives of the paper, the research team conducted intensive field work in two selected gram panchayats—Huchagondanahally (hereafter HG Hally) gram panchayat and Karadi (gram panchayat)—in Tiptur taluk of Tumkur district (Bangalore Division) in Karnataka as they are implementing the *Hariyali* guidelines through the involvement of the gram panchayats. The required data were collected through survey and interview methods that covered the activities carried out by the participating institutions and organisations—line departments such as Forestry, Agriculture, Animal Husbandry, Horticulture, Fisheries and

Sericulture, Self-Help Groups (SHGs) and User Groups (UGs)—that had received the funds. The unit of inquiry was the gram panchayat, which is a lower tier in the three-tier system of panchayati raj. Focused Group Discussions (FGDs) were also held with the panchayat members, stakeholder groups, SHGs and community members. An important aspect of the study was assessing the governance issues such as transparency in identifying priorities and spending, and more importantly, the issue of accountability as per the design and set guidelines.

Study Area: The working of any institution is conditioned by the given socio-economic and political framework. It is imperative to look into the environmental factors which play a significant and imposing role in shaping the organisation and its functioning. They are inter-dependent, inter-related and frequently interact with one another. The interaction between environment and governance is very relevant at

the grassroots level, especially to natural resource management.

Socio-Economic Profile of Selected Watershed Villages

To carry out a detailed study, two watershed villages, termed project villages, were selected, namely, Hindiskere in HG Hally gram panchayat and Nyakenahally in Karadi gram panchayat. The Tables 1 and 2 below provide information on the socio-economic profile of these two villages.

Table 1 : Profile of the Hindiskere watershed village

S.No.	Indicator	Frequency	Percentage
1.	Population		
	Male	1781	51.71
	Female	1731	49.29
	Total	3512	100.00
2.	SCs	786	22.38
	STs	128	03.64
3.	Agriculture families	578	
4.	Land details (in ha)		
	Total cultivable area	1015	60.56
	Irrigated area	177	10.56
	Uncultivable area	428	25.53
	Forest area	32	01.90
	Gomala (CPR)	24	01.43
	Total geographical area	1676	(100.00)
5.	Water source		
	Tanks	04	-
	Wells	206	-
6.	Landholding		
	Marginal	1126	42.53
	Small	383	14.46
	Medium	272	10.27
	Large	867	32.74
	Total	2648	(100.00)
7.	Watershed area under the project (in hectares)		508

Note: Figures in parentheses indicate percentages.

As seen from the Table 1, the male population (51.71 per cent) is more than the female population (49.29 per cent). The population of SCs/STs is just around 26 per cent of the total population. The information on land use pattern reveals that out of the total geographical area, 60.56 per cent come under the cultivable area of which 10.56 per cent is under irrigation and 25.53 per cent not suitable for cultivation. Only 1.90 per cent of the area is identified as forest area and 1.43 per cent as *gomala*. The sources of irrigation are mainly borewells and tanks, which are almost dried up due

to depletion of underground water. The main crops grown are ragi (a staple crop), paddy and jowar. In these areas too coconut is the principal commercial crop, which fetches substantial income to the farmers. There are 578 agricultural families and as regards landholding size 42.53 per cent are marginal farmers, followed by 32.74 per cent large farmers, 14.46 per cent small farmers and 10.27 per cent medium farmers. Under the project, 508 hectares of land in Hindiskere was identified as potential area for implementing watershed development activities.

Table 2 : Profile of the Nyakkenahally watershed village

S.No.	Indicator	Frequency	Percentage
1.	Population		
	Male	860	51.68
	Female	804	48.32
	Total	1664	100.00
2.	SCs	60	
	STs	-	
3.	Agriculture families	266	
4.	Land details (in ha)		
	Total cultivable area	554	59.06
	Irrigated area	200	21.33
	Uncultivable area	100	10.66
	Forest area	-	-
	<i>Gomala</i> (CPR)	84	8.95
	Total geographical area	938	100.00
5.	Water source		
	Tanks	02	
	Wells	100	
6.	Landholding		
	Marginal	257	44.39
	Small	118	20.38
	Medium	70	12.09
	Large	134	23.14
	Total	579	100.00
7.	Watershed area under the project (in hectares)		512

Note : Figures in parentheses indicate percentages.

Compared to Hindiskere village, the Nyakkenahally village is slightly different in terms of population, number of agricultural families and area. As seen from Table 2, the male population (51.0 per cent) is more than the female population (49.0 per cent). Of the total population, there are 60 families belonging to scheduled caste community. The data pertaining to land use pattern reveal that out of the total geographical area, 59.06 per cent come under the cultivable area and of this more than 21 per cent is irrigated area and around 10.66 per cent falls under uncultivable area. Interestingly, the village has no land coming under forest zone and around 9 per cent of the total land is described as *gomala* (common pool land). The sources of irrigation are mainly wells and tanks and in this village many wells had sufficient water for irrigation. The main crops grown are ragi (a staple crop), paddy and jowar. In this village also coconut is the principal commercial crop, which fetches substantial income to the farmers. Altogether, there are 266 agricultural families. A similar pattern emerges as regards landholding sizes in this watershed village also: 44.39 per cent are marginal farmers, followed by 23.14 per cent large farmers, 20.38 per cent small farmers and 12.09 per cent medium farmers. Under the project, 512 hectares in Nyakenahally are identified as potential areas for implementing watershed development activities.

Hariyali Guidelines as Implemented : To implement project works, 30 micro-level watersheds, covering all the 10 taluks of the district with a ratio of 1:3 (each taluk to implement 3 watersheds), were chosen by the district-level watershed committee, headed by the Adhyaksha of the Zilla Panchayat. As a follow-up action, the Deputy Conservator of Forests (DCF), the Project Implementing Agency (PIA), identified watershed areas after consulting the local leaders/people. Efforts were also made by the PIA to look into technical conditions by conducting PRA (Participatory Rural Appraisal), prepare master plan/action plan for selecting watersheds, which were similar to the

identifications done by the Karnataka Remote Sensing Agency, Bangalore. In a similar way, the gram panchayats (GPs) were entrusted with the responsibility of identifying micro-watersheds, preparing village maps and contour maps, and collecting details pertaining to the population, livestock, land etc. from the 2001 census. The GPs had to observe the following guidelines for identifying watershed areas:

- * To take into account soil conservation, water conservation, afforestation, horticulture and income-generating activities while preparing action plans and five-year integrated plans; and
- * To prepare plans with the help of experts and the local people.

In order to educate and sensitise the functionaries about the objectives, the processes and the modalities involved in implementing the *Hariyali* guidelines, the PIA had organised a one-day brain-storm meeting and a training programme for all the adhyakshas and the secretaries of the GPs. Following this, the line authorities, gram panchayat members and community members participated in transect walks for collecting necessary information and it was discussed in gram sabha meetings. The proceedings of the meetings were video graphed and documented by the officials of the Zilla Panchayat. During these meetings, a collective and consensus decision was taken for identifying beneficiaries, selecting work sites and work to be taken under various development sectors under the project. Keeping in view the decisions taken in gram sabha meetings, the Watershed Development Team (WDT), along with the officials of respective departments and functionaries of the gram panchayats, prepared a five-year perspective plan and a year-wise plan for implementing the project works.

Allocation of Funds : Watershed-wise and Sector-wise

A close look at Table 3 indicates that the allocation of funds was done for meeting two important requirements — the administrative

expenditure and execution of the project works. Further, the allocation was done keeping in view the specific requirements of training, community development and, more importantly, executing the works under different development sectors like forestry, agriculture, animal husbandry, horticulture, sericulture and fisheries.

Table 3 : Allocation of funds for administration and works —watershed—wise and sector—wise

Programme	% fixed	Sector-wise yearly allocation (Rs in lakh)					Total amount (Rs in lakh)
		2003-04 (15%)	2004-05 (30%)	2005-06 (30%)	2006-07 (15%)	2007-08 (10%)	
PIA							
* Administrative expenditure	5	0.30	0.30	0.30	0.30	0.30	1.50
* Training cum community development	5	0.90	0.30	0.30	-	-	1.50
Gram Panchayats							
A. Administrative expenditure	5	0.30	0.30	0.30	0.30	0.30	1.50
B. Works							
* Agriculture	30	1.03	3.06	2.44	1.37	1.10	9.00
* Forestry	35	1.67	3.33	3.33	1.50	0.67	10.5
* Horticulture	10	0.18	0.77	1.33	0.50	0.22	3.00
* Animal husbandry	04	-	0.37	0.47	0.20	0.16	1.20
* Sericulture	04	0.12	0.40	0.38	0.18	0.12	1.20
* Fisheries	02	-	0.17	0.15	0.15	0.13	0.60
Total	100	4.50	9.0	9.0	4.50	3.0	30.0

Source : Project documents.

The computed information reveals that each watershed implemented by the gram panchayat received about Rs 4.5 lakh (for the year, 2003-04) for expenditure on administration, training and for executing sector-driven development works. The PIA received funds only for administrative expenses, conducting training programmes and initiating community development activities. Similarly, the gram panchayats received funds for meeting the administrative costs and implementing project works. As seen from the Table, the cost fixed for

administration was almost the same for all the five years; there was a slight variation for executing the project works. The sector-wise allocation per watershed shows that during the five-year period the forestry sector averaged Rs 2.10 lakh, followed by the agriculture sector Rs 1.80 lakh, horticulture Rs 60,000, animal husbandry and sericulture Rs 24,000 each and fisheries Rs 12,000. Put together, each watershed received Rs 30 lakh during the five-year period of the project.

Performance of Gram Panchayats and Line Departments

Using the institutional framework, we looked into certain institutional and performance indicators for assessing the overall functioning of the gram panchayats and line departments in implementing watershed development activities in the two selected villages. The indicators were : functioning of gram sabha, nature of decision-making process, communication process and coordination, inter-institutional linkages, extent of following the guidelines, participation of user groups including SHGs, skills and capabilities of institutions and personnel involved, capacity building, extent of institutional autonomy, wage-employment generation, improvement in living conditions of the poor, environment awareness among the community and benefits accrued and the project village as a whole. The following pages throw

light on the positive and negative aspects of implementing the *Hariyali* guidelines for achieving the goals of the watershed development project.

Sectoral Achievements under the Project

Both the gram panchayats had prepared a five-year plan covering the period from 2003-04 to 2007-08 and annual plans as per the guidelines issued by the PIA (Forest department). The period selected for the study was between 2003-04, 2004-05 and 2005-06. A close look at Table 4 indicates that there was uniformity while allocating funds to gram panchayats on the pattern evolved by the PIA according to the guidelines. As a result, the forestry sector was allocated more funds than other sectors like agriculture. All the sectors, except agriculture, had performed reasonably well in the initial year of the programme but not so well in the subsequent years.

Table 4 : Sectoral achievements : GP-wise and sector-wise for the period from 2003-04 to 2005-06 (Rs in lakh)

Sector	HG Hally GP			Karadi GP			Allocation per GP per sector
	2003-04	2004-05	2005-06	2003-04	2004-05	2005-06	
Forestry	1.07 (1.67)	2.16 (3.33)	1.15 (3.33)	1.07 (1.67)	1.15 (3.33)	1.90 (3.33)	8.33 (43.0)
Agriculture	- (1.03)	0.46 (3.06)	1.43 (2.44)	- (1.03)	1.62 (3.06)	- (2.44)	6.53 (34.0)
Horticulture	0.17 (0.18)	0.51 (0.77)	0.50 (1.33)	0.17 (0.18)	0.41 (0.77)	0.50 (1.33)	2.28 (12.0)
Animal Husbandry	-	0.11 (0.37)	0.10 (0.47)	-	0.10 (0.37)	0.10 (0.47)	0.84 (04.0)
Sericulture	0.12 (0.12)	0.05 (0.40)	0.38 (0.38)	0.11 (0.12)	0.03 (0.40)	0.15 (0.38)	0.90 (05.0)
Fisheries	-	0.17 (0.17)	0.05 (0.15)	-	0.17 (0.17)	0.05 (0.15)	0.32 (02.0)
Total	1.36 (3.00)	3.46 (8.10)	3.61 (8.10)	1.35 (3.00)	4.48 (8.10)	2.70 (8.10)	19.20 (100.0)
Achievement in Percentage	45.33	42.72	44.57	45.0	55.31	33.33	

Source : Office of PIA and GPs.

Note : Figures in parentheses indicate allocation per sector and in the last column the percentage to the total.

By 2003-04 only 45 per cent of the targets were achieved in the two watersheds. On an average, 47 per cent of project objectives were achieved by the two panchayats. The low performance, according to the officials of the forest department, was due to the lack of functional coordination and support from the agriculture department. But this was denied by the officials of the agriculture department who pointed out that the poor performance was due to non-receipt of funds in time. As revealed from the Table, during the year 2003-04, under the Hindiskere watershed project, the agriculture department did not receive the allocated amount, and in 2004-05, it received only Rs 50,000 as against the allocation of Rs3.06 lakh and in 2005-06, Rs 1.44 lakh. Similar was the case with the Nyakenahally watershed project. Seen in terms of sector-wise allocation, forestry got a major share (43 per cent) followed by agriculture (34 per cent), horticulture (12 per cent), animal husbandry (4 per cent), sericulture (5 per cent) and fisheries (2 per cent). Notwithstanding this, the initial spirit and zeal that was shown in the first year simmered down considerably in the ensuing years.

Perceptions of the Beneficiaries (Respondents)

The selection of beneficiaries was done on the basis of the benefits that they had received under different sectors. In total, questionnaire was administered to 158 (86 in Hindiskere village and 72 in Nyakenahally) beneficiaries : 80 beneficiaries under forestry; 30 under horticulture; 40 under animal husbandry; 5 under sericulture and; 3 under sericulture were contacted to seek their opinions.

An analysis of the socio-economic background of the respondents (as seen from Table 5) reveals that in both the watershed villages the male members constituted more than females; in terms of percentages 75 were males and remaining 25 females. With regard to caste composition, a majority of respondents belonged to other backward castes – OBCs. The

Nyakenahally village has more than 83 per cent of the households belonging to this group compared to Hindiskere village which has around 78 per cent. However, the respondents belonging to SC/ST were more (22.09 per cent) in Hindiskere village than in Nyakenahally village (16.67 per cent). It is significant to note from the Table that in both the villages around 70 per cent of the respondents had different levels of education and only 30.23 per cent in Hindiskere village and 33.33 per cent in Nyakenahally were illiterates. In both the watersheds, agriculture was the primary occupation (67.44 per cent in Hindiskere and 62.50 per cent in Nyakenahally) followed by agricultural labourers with Nyakenahally having more (34.72 per cent) compared to Hindiskere village (29.07 per cent). As regards income status, a majority of the respondents, in both watershed villages, came under the "below poverty line" group (less than Rs. 20,000). Seen in terms of landholdings, it is important to note that more than 80 per cent of the respondents, in both the villages owned land and only 20 per cent did not own any land. However, a majority of them were either marginal or small farmers. Significantly, all the respondents, 87.21 per cent in Hindiskere village and 87.50 per cent in Nyakenahally village owned independent houses either built by own funds or taken under government housing schemes. A majority of the respondents, in both the villages, were found rearing a good number of small ruminants, especially sheep. The respondents owning milch animals were found effectively engaged in dairy related activities. As regards using smokeless *chullas* and gas (LPG), 50 per cent of the respondents in Hindiskere village and 45.83 per cent in Nyakenahally village were found using smokeless *chullas* and a small percentage of 23.25 and 13.88 had gas connections. The above analysis indicates that both the watershed villages almost share similar socio-economic characteristics.

Awareness about Hariyali Guidelines

The data show that only three-fourths of the total respondents knew about the *Hariyali*

Table 5 : Socio-economic background of the respondents of Hindiskere and Nyakenahally watershed villages

S.No.	Indicators	Hindiskere village		Nyakenahally village	
		Frequency	Percentage	Frequency	Percentage
1.	Sex				
	Male	64	74.42	54	75.00
	Female	22	25.58	18	25.00
	Total	86	100.00	72	100.00
2.	Caste				
	SC/ST	19	22.09	12	16.67
	OBCs(Other backward castes)	67	77.91	60	83.33
	Total	86	100.00	72	100.00
3.	Educational level				
	Illiterate	26	30.23	24	33.33
	Primary	36	41.86	23	31.95
	High school	14	16.28	15	28.83
	PUC and above	10	11.63	10	13.89
	Total	86	100.00	72	100.00
4.	Occupation				
	Agriculture	58	67.44	45	62.50
	Agriculture labour	25	29.07	25	34.72
	Artisan	03	3.49	02	02.78
	Total	86	100.00	72	100.00
5.	Income level (in Rs.				
	Up to 3000	31	36.06	27	37.50
	3001 -6000	20	23.25	19	26.39
	6001-9000	20	23.25	17	23.61
	9001 and above	15	17.44	09	12.50
	Total	86	100.00	72	100.00
6.	Landholding				
	Landless	17	19.77	13	18.05
	Marginal farmer	21	24.41	18	25.00
	Small farmer	19	22.09	17	23.32
	Medium farmer	14	16.49	13	18.05
	Large farmer	15	17.44	11	15.28
	Total	86	100.00	72	100.00
7.	Assets				
	Permanent house	75	87.21	63	87.50
	Semi-permanent house	11	17.79	09	12.50
	Draught animals	152	—	134	—
	Milch animals	172	—	150	—
	Small ruminants	256	—	185	—
	Smokeless chullas	43	50.00	33	45.83
	LPG	20	23.25	10	13.88

guidelines. Those who knew came to know first when a socio-economic survey was conducted by the WDT and also during the gram sabha meetings. They were given to understand that under the project, the gram panchayat would play a key role and the emphasis will be on plantation activity, which would be undertaken on the farm land, along with road-side plantation.

Attendance of Respondents in Gram Sabha Meetings

The data presented in Table 6 show that about 82 per cent of the respondents interviewed (drawn from different size class) had attended the gram sabha meetings organised by the gram panchayat in their respective watersheds.

Table 6 : Attendance of respondents in gram sabha meetings

Participated in gram sabha meeting	Hindiskere watershed			Nyakenahally watershed			Total (in %)	
	Participated	Not participated	Total	Participated	Not participated	Total	Participated	Not participated
Size class								
Landless	15	02	17	10	03	13	25	05
Marginal farmer	18	03	21	16	02	18	34	05
Small farmer	15	04	19	16	01	17	31	05
Medium farmer	09	05	14	11	02	13	20	07
Large farmer	11	04	15	08	03	11	19	07
Total	68 (79.07)	18 20.93	86 100.0	61 84.72	11 15.28	72 100.0	129 (81.65)	29 (18.35)

Note : Figures in parentheses indicate percentages.

The respondents (18.35 per cent) who did not make themselves free to attend the meetings reported that they could not attend the meetings either due to household work or had gone out to work or had no access to information about the meeting. Those who attended had prior information about the meeting and also sat through the entire duration. In order to disseminate information regarding the meetings, the gram panchayats had adopted various methods such as distribution of pamphlets and door-to-door canvassing.

Participation of Respondents in Wage Employment Generation

The project provided employment opportunities to groups of different social categories and size class; the details are presented in Table 7.

As seen from Table 5, the watershed development projects, implemented by the gram panchayats, were able to generate wage employment to the communities. In both the watersheds, about 90 per cent of the community members, belonging to various landholding groups, were given assured employment for a period stretching between 21-30 days in a month. The landless respondents were found satisfied by wages paid for their work. In fact, they felt that since they were getting employment in the village itself, they did not have to go out in search of work. As mentioned, both men and women were paid equal wages of Rs. 69 per day (State Scheduled Rates followed by the Public Works Department), which was found universal in both the watersheds. However, the wages paid were slightly lesser compared to minimum wages (Rs. 72 for

Table 7 : Number of respondents worked as labourers- per month – by size class and watershed-wise

Respondents	Hindiskere watershed				Nyakenahally watershed			
	01-10	11-20	21-30	Total	01-10	11-20	21-30	Total
as wage labourers	days	days	days	days	days	days	days	days
Size class								
Landless	-	-	17	17	-	-	13	13
Marginal farmer	-	02	19	21	-	-	18	18
Small farmer	-	04	15	19	-	02	15	17
Medium farmer	-	02	10	12	-	03	10	13
Large farmer	-	-	-	-	-	-	-	-
Total	-	08	61	69	-	05	56	61
		(11.59)	(88.41)	(100.0)		(08.20)	(91.80)	(100.0)

Note: Figures in parentheses indicate percentages.

agricultural labourers) fixed by the Government. It is significant to note from the Table that the beneficiaries belonging to larger landholding did not participate in the wage employment generation activities. They were from *lingayat* community (a dominant community in the State), owning coconut garden. However, they did work on their lands for planting tree and fruit bearing saplings distributed by the forest and horticulture departments. The wage employment works were carried out mostly in terms of excavation of pits, refilling of pits, construction of check dams, cattle ponds, boulder checks and other labour intensive works.

Respondents' Participation in the Project Implementation Activities

The effective implementation of development projects like watershed development depends to a great extent equally on the effective participation of its beneficiaries. Keeping this in view, information was elicited from our beneficiary respondents about their extent of involvement in the various phases of the project implementation like planning, implementation and monitoring. Table 8 sheds light on this aspect.

Active participation of the beneficiaries in the implementation of watershed works was seen more during the planning stage. Almost 80 per cent of the beneficiaries contacted had actively participated at the time of identifying work sites, identifying works especially during the gram sabha meetings. However, their participation was not forthcoming when it came to the tasks of implementing and monitoring the works like afforestation, construction and maintenance of water harvesting structures. More involvement was visible in individual-driven project works than community-driven works.

Field Observations

The foregoing analysis of the field level situation reveals to a great extent the internal dynamics in the processes of implementing watershed development activities in the two watershed villages. These revelations do have a larger implication for the governance process, seen in terms of transparency, accountability and responsive governance. The details are as follows.

The gram sabha meetings were called for selecting and prioritising the works, identifying

Table 8 : Beneficiaries' participation in the implementation of watershed development project by size class and watershed-wise

Beneficiary participation in implementation of the project Size class	Hindiskere watershed					Nyakenahally watershed				
	Planning	Implementation		Monitoring		Planning	Implementation		Monitoring	
		Private	Public	Private	Public		Private	Public	Private	Public
Landless	15	17	12	-	-	10	13	10	-	-
Marginal farmer	18	21	05	21	03	16	18	04	18	03
Small farmer	15	19	04	19	04	16	17	03	17	02
Medium farmer	09	14	03	12	03	11	13	03	13	03
Large farmer	11	15	02	15	04	08	11	04	11	04
No. of beneficiaries participated	68 (79.06)	86 (100)	26 (30.23)	67 (77.91)	14 (16.28)	61 (84.72)	72 (100)	25 (34.72)	59 (81.94)	12 (16.66)
Total	86	86	86	86	86	72	72	72	72	72

Note : Figures in parentheses indicate percentages.

and selecting beneficiaries and selecting work sites like road-side plantation, check dams and farm ponds. However, except for the first meeting, no other gram sabha meetings were called in the two project villages, either to discuss the progress made or monitor the project activities.

Both the PIA and the WDT played a significant role in preparing the plan and budget estimates and relegated the gram panchayats and gram sabha to the role of approving the plans prepared. This, indeed, pointed towards a centralised planning process. As a result, the gram panchayats did not publicise the details of plan estimates by putting them on their respective notice boards and the public had no access to any information, especially about sector-wise allocation.

There prevailed a strained relationship among the agriculture department, the forest department and the gram panchayat. There was absolutely no proper communication and understanding among the three in implementing the project works. This clearly showed the inter-departmental problems and lack of coordination which, in fact, came in the way of implementing the watershed projects under the *Hariyali* guidelines. There was a general feeling among the beneficiaries that the way the watershed project was implemented, it appeared as if it was a department's (forest) programme and not a community-driven programme.

Under the project, around 50 plants (during 2005-2006) were planted in an acre of land and 10 to 15 labourers were employed for 20 days between 6 am and 3 pm. A uniform wage of Rs 69 was paid to both men and women based on State Scheduled Rates (SSR). However, there were instances of delayed payments causing inconvenience to labourers. The plantation activity was taken up generally during the rainy season. Both grafted and non-grafted plants were distributed to farmers. Grafted sapota, mango, jackfruit, tamarind, *nerale* (*Eugenia Jambolana*), *honge* (*Dalbergia Oujeinensis*),

eucalyptus and fodder seeds were distributed. Significantly, all the farmers were found demanding fruit-bearing plants irrespective of the size of their landholdings. On an average, 600 plants such as jackfruit, *honge*, *neem*, *hippe* (*Bassia Latifolia*) and eucalyptus were planted on the road-side, near small hillocks and in *gomala*. However, the beneficiaries and the panchayat members felt that the forester and the forest guards did not follow the list prepared by the gram sabhas while distributing the plants to beneficiaries. The forest guards favoured their own people. This was mainly due to non-presence of community members in the form of watershed committees as existed earlier. It was reported that the non-beneficiaries used to leave their livestock such as small ruminants, goats and sheep for grazing and also cut the plants planted on the road-side. Check-dams were constructed and monitored by the agriculture department, but there was no monitoring either by the forest department or the panchayat functionaries. Adding to this was the non-cooperation of non-beneficiaries.

Members of the user groups revealed that there was hardly any meeting between them and the implementing officer and the gram panchayat members. Due to party politics and the predominant role played by the forest officials (like the range forest officer, forest guard, *vanarakshakas*) and the secretaries of the gram panchayats, there was hardly any scope for people's participation. Furthermore, change of works, list of beneficiaries and addition and deletion of names was done by the gram panchayat at the behest of either the *adhyaksha*/secretary or the range forest officer. Wherever party politics was present, the implementation was slow. Monitoring and supervision by the panchayat members was not taken seriously.

Social mobilisation and training was not given much importance under the project. The selection of SHGs was on an ad-hoc basis at the behest of the president or the secretary of the panchayat. This clearly made a case for having

community-driven micro-watershed associations and committees.

The rapport between the forestry department and the panchayats was not all that good. Discussions with some of the panchayat members, who were neither consulted nor apprised, revealed that key functionaries, like the *Adhyaksha* and the secretary of the gram panchayat and the range forest officer, who were the joint signatories, played a key role in implementing watershed activities. The responsibility of implementing the watershed works was entirely entrusted to the Assistant Conservator of Forests and the Range Forest Officer attached to the forest department. It almost became a departmental scheme with the gram panchayat playing the second fiddle, just releasing the funds to the respective line departments and occasionally monitoring the works!

Summing Up

The foregoing analysis of the institutional performance of the gram panchayats and the line departments, vis-à-vis the PIA in implementing watershed development programme revealed both positive and negative aspects. A close look into the organisational and functional dynamics of these implementing agencies showed to a great extent the internal processes concerning plan formulation and plan implementation. Collaborating closely with the gram panchayats, the PIA was able to create an atmosphere of mutual trust and cooperation (particularly during the initial phase of project implementation), and this to some extent enhanced the quality of the project works. In fact, the very decision to work through PRIs had in a way given scope for some degree of transparency and accountability, particularly in view of the project's efforts to strengthen the democratic functioning of these village-level institutions. Thus, the gram panchayats were given an opportunity to make effective use of project resources and thereby make the process all-inclusive, transparent, accountable, and responsive, as also reported by Farrington *et al.* (1999) and Baumann (1998).

Notwithstanding such positive aspects of project implementation, there were some contentious issues cropping up between the panchayats and the other participating institutions. Discussions with the members of the two gram panchayats revealed that there still existed a feeling of alienation or incongruous relationship among the gram panchayats and the line department officials. This was mainly because of the fact that the officials of the forest and agriculture departments often tended to ignore the importance and involvement of the local members in carrying out the project activities. The panchayat authorities felt that the panchayats should have a final say in matters concerning the identification of project activities and allocation of funds. Some senior members of the gram panchayats and a few village elders felt that the panchayats were treated as a 'Post-Office' or as a 'Clearance or Delivery Point' for the PIA.

A closer look at the different stages of implementation of the *Hariyali* guidelines reveals that there were even instances where these very guidelines being defied. In many cases, the department of forestry, the PIA, did not take the gram panchayats into confidence while taking crucial decisions. Even departments like agriculture complained against the forest department for taking unilateral decisions. One of the important findings of the study is the near absence of community participation in the implementation, except for its symbolic participation here and there. As a consequence, there was a void between the community and the implementing agencies. Similar experiences have been reported by Parthasarathy Committee Report (2006) and Joy *et al.* (2006).

An important lesson that emanates from the analysis is that no institution or organisation — be it a panchayat, a NGO, a government department or a CBO — can work in isolation or independent of others. Hence, it is necessary to create a synergy among these formal and semi-formal governing institutions for addressing different natural resource management needs. This institutional arrangement would certainly

necessitate them to work as one organisation, integrating and synergising these institutions/ organisations for carrying out NRM activities in the decentralised NRM framework (Kumar 2007, Sivanna and Reddy 2007). There is a need to forge a partnership among these institutions to carry out watershed programmes further.

Notwithstanding all this, as a support measure, there is an immediate need to strengthen the PRIs, especially the gram panchayats, in terms of devolving appropriate powers, functions and resources. However, this needs a strong "political will" of the respective state governments to initiate the policy measures. Based on the findings of the study and emerging discussions on the involvement of the PRIs in the implementation of watershed

development programmes, this study makes the following recommendations:

1. Ensure well-defined rights of panchayats over natural resources,
2. Upgrade the skills and capabilities of gram panchayat members and local officials in NRM activities so as to overcome the technical deficiencies,
3. Devolve more political powers and independent planning functions to panchayats,
4. Ensure synergy among PRIs, NGOs and CBOs for effective management of the natural resources in an integrated and decentralised NRM framework.

References

1. Baumann, P (1998), Panchayati Raj and Watershed Management in India: Constraints and Opportunities, Working Paper 114. London, Overseas Development Institute.
2. Baumann, P and J Farrington (2003), Decentralising Natural Resource Management: Lessons from Local Government Reform in India, Natural Resource Perspective, London: ODI, 86: 1-4.
3. Department of Land Resources (2006), From Hariyali to Neeranchal, Report of the Technical Committee on Watershed Programme in India, New Delhi, Ministry of Rural Development, Government of India.
4. Deshpande, R S, and A Narayanamoorthy (1999), Irrigation Sector in Maharashtra: Some Policy-Related Aspects, *Water Resources Journal*, No.200, March: 72-82.
5. Farrington, J, C Turton and A J James (eds.) (1999), Participatory Watershed Development: Challenges for the Twenty First Century, New Delhi, Oxford University Press.
6. Joy, K J, A Shah, S Paranjape, et.al. (2006), Reorienting the Watershed Development Programme in India, Pune, Forum for Watershed Research and Policy Dialogue.
7. Kerr, J (2002), Watershed Development, Environment Services and Poverty Alleviation in India, *World Development*, XXX (8).
8. Kumar, S (2007), Integration of Formal and Semi-formal Local Governance Systems to Ensure Accountability, Transparency and Legitimacy for Sustainable Development in India- www.2007amsterdamconference.org/
9. Lele, S (2004), Decentralising Governance of Natural Resources in India, CISED, Bangalore, CISED.
10. OIKOS and IRRR (2000), Social and Institutional Issues in Watershed Management in India, New Delhi, OIKOS and Philippines, IRRR.
11. Ratna Reddy V. (2000), Sustainable Watershed Management : Institutional Approach, *Economic and Political Weekly*, XXXVIII (38), 3435-44.
12. Shah, Mihir (2006), Towards Reforms, *Economic and Political Weekly*, XLI (27 & 28): 2981-84.
13. Sivanna, N and M Gopinath Reddy (2007), Panchayats and Watershed Development : An Assessment of Institutional Capacity, Working Paper 12, Bangalore, ISEC.
14. Villadsen, Soren (1999), Good Governance and Decentralisation, *Public Sector Reforms in Developing Countries*, Copenhagen.