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**SOCIAL AND ECONOMIC
CHANGE MONOGRAPHS 12**

**Panchayats and Watershed
Development: An Assessment of
Institutional Capacity**

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With the assistance of M Srinivasa Reddy

**Institute for Social and Economic Change
Bangalore
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Foreword

Watershed development has been advanced as a policy response to environmental crisis in rural areas and the non-sustainability of agriculture, especially in dry land and semi-arid regions. In India, this programme has been implemented since 1975. Although originally conceived as a soil and water conservation programme, during the last decade, watershed development has been rearticulated as a comprehensive programme for rural development. Even so, watershed management is a location-specific programme in terms of agro-ecological and socio-cultural conditions. As such, the panchayati raj institutions and community based organisations have a crucial role to play in this programme.

What are the institutional capacities of panchayats and community based organisations involved in the formulation and implementation of the watershed programme? What are the linkages and interactions between panchayats and community based organisations in this regard? Going beyond watershed development, what are the prospects of designing innovative strategies for participatory natural resource management? Thanks to an endowment grant from Sir Rattan Tata Trust, in the instant study, Dr. M. Gopinath Reddy of the Centre for Economic and Social Studies, Hyderabad and Dr. N. Sivanna of the Institute for Social and Economic Change, Bangalore collaborate to answer these questions.

Data for this study come from five villages in Kolar district in Karnataka and two villages in Anantapur district in Andhra Pradesh. For in-depth examination of the key issues, Dr. Sivanna and Dr. Reddy have followed two different strategies; their analyses appear in Chapters II and III respectively. In Chapter IV, they present the main findings of their analyses in comparative perspective and arrive at policy recommendations. Scholars and policy makers dealing with watershed management programme and decentralised planning and governance will find this monograph useful.

March 2007
Bangalore

N Jayaram
Director, ISEC

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Abbreviations and Acronyms

AF	Accion Fraterna
AI	Artificial Insemination
AP	Andhra Pradesh
APRLP	Andhra Pradesh Rural Livelihood Programme
BCS	Backward Castes
BJP	Bharathiya Janata Party
CBOS	Community Based Organisations
CCROAD	Cement Concrete Road
CDC	Community Development Committee
CO-1	Coimbatore-One
CMEY	Chief Minister/ Empowerment of Youth Group
CPR	Common Property Resources
DDP	Desert Area Development Programme
DFID	Department of International Development
DLDB	Dry Land Development Board
DNRM	Decentralized Natural Resource Management
DPAP	Drought Prone Area Programme
DRDA	District Rural Development Agency
DWCRA	Development Of Women And Child in Rural Areas
DWMA	District Water Management Agency
EAS	Employment Assurance Scheme
EZE(GERMAN)	Protestant Agency for Development Co-Operation
FVF	Father Vincent Ferrer
FES	Foundation for Ecological Society
FGDS	Focus Group Discussions
FFWP	Food For Work Programme
ICCO	Inter Church Co-Operation for Development Project
IDM	Integrated Disease Management
INM	Integrated Nutrient Management
IPM	Integrated Pest Management
IRD	Integrated Rural Development Programme
IWDP	Integrated Wasteland Development Programme
JFM	Joint Forest Management
KAWAD	Karnataka Watershed Development Society
LL	Landless
MED & LF	Medium and Large Farmer
MF	Marginal Farmer
MLA	Member of Legislative Assembly
MLS	Minimum Level of Subsistence
MPTC	Mandal Pradesh Territorial Constituency
MPDO	Mandal Pradesh Development Officer

MPP	Mandal Praja Parishad
MP	Member of Parliament
MRO	Mandal Revenue Officer
MWSDC	Micro Watershed Development Committee
MYRADA	Mysore Rural Development Agency
NGO	Non-Governmental Organisation
NRM	Natural Resource Management
NTGCF	National Tree Grower's Federation
PHC	Primary Health Centre
PIA	Project Implementing Agency
PIDOW	Participative Integrated Development of Watershed
PNGO	Partner Non-Governmental Organisation
PRA	Participatory Rural Appraisal
PRIs	Panchayati Raj Institutions
RDO	Rural Development Officer
RDT	Rural Development Trust
SC/ST	Schedule Caste/ Schedule Tribe
SF	Small Farmer
SHG	Self- Help Group
SHTs	Spear Head Teams
SMS (RWHS)	Subject Matter Specialist Rain-Water Harvesting Structures
SMS (AGRL)	Subject Matter Specialist Agriculture
SWC	Soil Water Conservation
UG	User Group
VBOs	Village Based Organisations
VDS	Village Development Societies
VDC	Village Development Committees
VEC	Village Education Committee
VOs	Village Organisations
VSS	Vana Shikshana Samithi
VWC	Village Watershed Committees
WA	Watershed Association
WASSAN	Watershed Support Services and Activities Network
WC	Watershed Committees
WDD	Watershed Development Department
WDF	Watershed Development Fund
WSTL	Women Sectoral Team Leader
WUA	Watershed Users Associations
ZP/TP/GP	Zilla Panchayat/Taluk Panchayat/Grama Panchayat

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CHAPTER I

INTRODUCTION

The recent spurt in watershed development programme is a policy response to the increasing environmental crisis and non-sustainability of agriculture, especially in dry land/semi-arid regions (Shah 2000). Managing watersheds for rural development in developing countries is a relatively new concept and in many ways it is also much more complex than the original concept. It is concerned not only with stabilizing soil, water and vegetation, but also with enhancing the productivity of resources in ways that are ecologically and institutionally sustainable (Farrington *et al* 1999).

Watershed development programme is being implemented in India for over two decades now. An integrated approach to the programme as a strategy was initiated during the period 1975-1983. Watershed development programmes, in most cases, made only limited or selective impact especially on people's livelihood. As a result, there have been situations where even some of the successful watershed development programmes have not made minimum provisions for drinking water or fodder (Kerr *et al* 1998).

In India, watershed rehabilitation is not originally conceived as a vehicle for rural development. The original concept of watershed management or rehabilitation was to focus on the management of these resources in medium and large river valleys in ways that would prevent rapid runoff of water (and resultant soil erosion), and would slow down the rate of siltation of reservoirs and minimise the incidence of potentially damaging flash floods.

The watershed development programme, conceived purely as a soil and water conservative programme, has, in the last decade, been restructured as a comprehensive programme for rural development. Among its foremost objectives are increasing agricultural productivity in dry land areas, employment generation and reduction of migration, improvement of common property resources and the resource conditions of the socially and economically disadvantaged. Watershed is not a technology but a concept which tends to integrate conservation, management and budgeting of rain water through simple but discrete hydrological units. Simultaneously, watershed supports a holistic framework, which means the combined application of technologies for soil and water conservation with improved crop varieties, farming systems and agronomic management, taking into account both arable and non-farm lands. Water resource development, management, harvesting and ensuring equity, in sharing, form the nucleus of watershed management (Reddy *et al* 2004).

Watershed management is basically a location-specific programme, in terms of both agro-ecological and socio-cultural conditions (Thapa 1996). Yet, there are some cross-regional and cross-cultural lessons to be learnt on harnessing local community efforts in watershed management, resolving conflicts, negotiations with vested interests, and preparing the communities for post-project management responsibilities (Dwarakinath 1995; Younis and Dragun 1993). Watershed Development has become a central focus for rural development in the country for a number of reasons: increased agricultural production in India over the 1990s reached a plateau, mainly due to stagnation in green revolution areas; land degradation is becoming a serious threat across the country requiring immediate attention; and there has been a rising demand for water and a tendency towards over-extraction of groundwater, with little concern for commensurate improvements in water-harvesting and judicious use of the increasingly scarce precious water resources (Reddy 2000). According to some estimates, half of the total land area, approximately 170 million hectares, have been classified as degraded land, half of which come under undulating semi-arid areas, where rain-fed farming predominates (Deshpande and Reddy 1994; Ninan 1998). These serious concerns call for efficient and sustainable use of natural resources, especially in resource-poor and agriculturally dominated countries like India, where two-thirds of the cropped area is dependent on rainfall, without any protective irrigation facilities. Seen in this context, watershed development seeks to improve the quality of the land resources through water and soil conservation aimed at improved agricultural production and secures drinking water. The main approach has been through land improvement structures such as check-dams, infiltration dams and contour trenching among others. Besides all these, the main livelihood impact has been the improvement in household's land assets. The Watershed Development Policy, as manifested in Drought Prone Areas Programme (DPAP) approach, has six stated technical aims. They are:

- a) to regenerate, preserve and utilize natural resources like water, soil, and vegetation;
- b) to improve catchment protection improves moisture retention in priority catchments and reduce erosion;
- c) to ensure community participation throughout the project cycle;
- d) to establish and strengthen local institutions so that they were able to support the local population;
- e) to increase employment opportunities level and security of incomes including those of poor families, landless and women; and

- f) to increase alternate livelihood opportunities with specific focus on women, poor and landless.

1.1. Decentralisation, Local Institutions and Natural Resource Management

In recent years, much emphasis has been placed on decentralisation strategy on the notion that decentralisation of power to the local units of government and management is one of the better ways of empowering people, promoting public participation and increasing efficiency. Institutions, both formal and informal, play a crucial role in strengthening the decentralisation process at the cutting-edge level. Panchayats, Co-operatives, Water Users associations (WUA's) and Vana Samrakshana Samithi's (VSSs) constitute formal institutions, while institutions like people's collectives and Self-Help Groups (SHGs), supported by various NGOs come under the rubric of the informal system (Oliver *et al* 2001). However, it needs to be recognized that there are a number of SHGs supported by State/ Government (DWCRA groups, DPIP groups in Andhra Pradesh) which are more akin to formal institutions. However, different approaches have been used to explain various institutional arrangements operating in rural areas. Most of the studies available pertain to informal institutions at the local level (Reddy 2000; Kolvalli and Kerr 2002). There are a few studies (Baumann 1998; Ramakrishnan 2001; Hooja 2004; Rajasekhar *et al* 2003) that examine the role of formal or legal institutions like Panchayati Raj Institutions (PRIs) and Joint Forest Management (JFM) in Common Property Resource (CPR) management. This assumes importance in the light of the conferment of enhanced status and powers to PRIs after the passing of 73rd Constitutional Amendment.

The Panchayati Raj Institutions, as statutorily established institutions, possess legal and constitutional rights and mandate for natural resource planning (Baumann 1998). Farrington (OIKOS and IRRR 2000) has identified several positive aspects of PRIs for handling, planning and implementation of 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, have the powers to prepare development plans according to people's wishes. All these attributes make a strong case for the intervention of panchayats in planning and implementing schemes for natural resources and, particularly watershed development programme. This is despite the fact that panchayat's rights over natural resources are inconsistent with the rights granted to

other bodies, domination of party politics controlled by elite farmers, corruption, lack of downward accountability, lack of technical expertise and that panchayat's territorial seldom correspond with its natural resource boundaries. The cumulative effect of all this has been rather incoherent management of natural resources.

However, this cannot be an excuse for not involving panchayats in the management of natural resources. In fact, the recent move of the Central Government, through Hariyali guidelines, has very much favoured entrusting the responsibility of watershed development programme to the grama panchayats.

The Hariyali guidelines, issued in March 2003, have aimed at empowering PRIs in planning, executing and managing the watershed development activities. Under this new initiative, all watershed development activities would be implemented through the PRIs by providing them with necessary administrative, technical and financial support. The grama sabha would work as watershed committee and grama panchayats would be supported either by the block/zilla panchayats or by the line departments or by a reputed NGO in the matters of technical aspects. For implementing all watershed projects, the zilla panchayat would work as Project Implementing Agency [PIA]. With the passing of responsibilities to the panchayats, the existing organisations and institutions would cease to have any role in watershed development activities. As a result, grama panchayats are now expected to have both executive functions and also governance functions.

In spite of the provisions of watershed guidelines, there has been little effort on the ground to provide a meaningful role to panchayats. Involving PRIs in the whole process needs to be looked into afresh. They can play an important role as PIAs besides playing a catalytic role in those NGOs performing as PIAs. They need to be given a fair trial before discarding them (Reddy *et al* 2001). NGO-managed watersheds are found to be performing better, in general, although there are wide variations across the NGO managed watersheds. In fact, some of the NGOs abandoned watersheds after receiving the initial funding, which was later taken up by the government agencies in order to continue their implementation. Perhaps, this was one of the important reasons for the poor performance of watersheds managed by the government agencies (Reddy *et al* 2001). In the case of watershed development, sadly, self-help and user groups, formed by the residents of the watershed area, were found to be the beginning as well as the end point for the programme. The programme success depended upon consensus among a large number of users. Moreover, collective

capability and collective action were required to successfully manage existing structures as well as new ones created by the programme (D'Silva and Pai 2003). What was important was the formation of beneficiary groups/ community organisations in the large number of villages, especially where NGOs were operating. And all the more significant was the awareness that had been generated about the need for as well as the potential benefits that might accrue from watershed development programme (Shah 2000).

PRIs and watershed institutions have different objectives, different vision of the community, and a different perspective on the process of collective action. However, these differences need not be a point of conflict as long as watershed management policies honour the designated roles of these two systems (Baumann 1999). One of the defining differences between panchayat raj and watershed institutions is the principle of accountability. PRIs are accountable to the electorate and can be voted out, and watershed institutions are accountable to the government, which can stop funds and disband committees, if specified procedures are breached (Baumann 1999).

There are several provisions in the watershed guidelines for convergence. The programme starts with the consent of the grama panchayat in terms of a resolution that the panchayat will ensure the maintenance of assets created and will actively participate in the programme in the areas of planning, monitoring and reviewing of progress. Panchayat raj and its guidelines are both instrumentalities that aim to devolve development initiative to local communities. The former is a constitutional part of Indian democracy and the latter an executive order of a Ministry. Apart from the fact that both aim to decentralise, they differ in their legislative status, objectives and approach (Baumann 1999). Further, they also differ in their conceptualisation of the community and of empowerment. The community in panchayat raj parlance is treated as an integral part of the wider social, economic and political system. The three-tier structure network grama sabha to village, block, and district levels- ultimately provides an avenue for the representation of local needs in the national governance. The community, in the guidelines, is atomistic; watershed projects do not address external influences on the local community; and there is no system whereby local communities can decide on their needs and express these at higher decision- making levels (Baumann 1999).

Notwithstanding the above, there are differences of opinions amongst both researchers and practitioners with regard to the role of panchayats in watershed development (Joy and Paranjape 2003). The point of contention is whether or not to involve panchayats in water management or to link

them with the community based organisations (CBOs). Those who are in favour of such linkages opine that panchayats being elected bodies, by design, are accountable, and more specifically, Panchayats have the provision to constitute sub-committees. On the other hand, those who favour CBOs argue that the panchayats are afflicted by politics and the CBOs, being autonomous organisations, are free from political pressures. Arguments of this nature have, in fact, made it difficult to generalize whether CBOs or PRIs should be assigned the responsibility of managing watershed management. But the point is, is there any need to treat them separately? The answer is 'no', because they need to be linked together for the effective implementation of watershed management.

1.2. Research Problem

A review of literature on involvement of panchayats in watershed development activities has revealed that the studies available in this area are few and far between. Under the 1994 guidelines, the Zilla Parishads and District Rural Development Agency [DRDA] were responsible for the implementation of these guidelines, and Taluk Panchayats and Grama Panchayats were also entitled to share the responsibility if, they so desired. The guidelines specify that the PRIs can, may, and should be involved in the implementation of watershed development programmes. However, these clauses have remained vague about the responsibility, role and manner of coordination of these institutions. But a major argument against the involvement of panchayats is that despite their constitutional importance, they lack political and administrative support and as well as funds. Further, the usual reason cited for not networking through PRIs is that they are governed by the rural elites, and prone to corruption. More importantly, political parties are often found to disable PRIs established by the previous governments in order to further their own political ends.

The above description makes it clear that there was a lack of consensus and clarity in regard to giving any importance to panchayats especially to grama panchayats in the implementation of watershed until the Hariyali guidelines were introduced. This was, in spite of the fact that watershed development was one of the important developmental activities of the PRIs, as listed in the Eleventh Schedule of the Constitution. This made it all the more important and appropriate to undertake a study of this nature. Set in this perspective, the present research has made an attempt to study the extent of involvement of panchayats, particularly grama panchayats in the implementation of watershed development programmes with a view to analysing their institutional strengths, weaknesses, opportunities, and

threats. As part of this assessment, the study has critically examined the various systemic issues to evolve a strategy to enhance the capacity of the panchayats and to evolve mechanisms to spread awareness among the organisations and communities with a view to promoting effective ownership of the common property resources.

1.3. Framework for Assessing the Institutional Capacity

The working of any organisation or institution can be analyzed using the following analytical framework [Table 1]. This is a modified version of the framework developed by Vasant [2003] of Duke University which provides for a composite set that includes eight attributes, organized into three clusters. Using this modified version, the present study has analysed the institutional capacities of panchayats and CBOs in implementing watershed development programmes.

Chart 1: Framework for Assessing Institutional Capacity

Institutional resources	Institutional performance	Institutional sustainability
Legal structure and governance	Programme results	Organisational autonomy
Human resources	Networking and external relations	Leadership
Financial resources	Constituency empowerment	Resource endowment

A look into the institutional resources helps to understand whether an institution like panchayat coming as it is, under a basic legal structure, has assured access to human, technical and other resources and its management systems. The institutional performance provides an opportunity to assess the performance of panchayats in achieving the programme results effectively, using their institutional and technical resources. Further, it assesses both efficiency and effectiveness at a selected point in time. The institutional sustainability is gauged more in terms of forward-looking attributes such as organisational autonomy, leadership capabilities and more importantly, the resource endowment, which, in turn, will ensure sustainability and self-reliance in the future.

1.4. Objectives of the Study

The objectives of the study were:

- to assess the institutional capacity of panchayats and CBOs involved in the formulation and implementation of WDP, studied in terms of their powers, resources (physical, human, and financial), and responsiveness to the local needs;

- to study the linkages and the interactions between panchayats and CBOs in the formulation and implementation of the WDP; and
- to explore the possibility for designing new strategies aimed at participatory natural resource management

1.5. Methodology

In order to examine the above objectives of the study, the study team conducted intensive fieldwork in the two selected districts, one each in Karnataka and Andhra Pradesh, and covered two different systems involved in the execution of watershed development activities. In Karnataka, an organisation called Foundation for Ecological Security [FES], based in the taluk of Chintamani in Kolar District, working with the grama panchayats to implement the watershed programme through formation of hamlet-level sub-committees at the hamlet-level was taken up for the study. A point to be noted here is that under the Karnataka Panchayat Act of 1993, Section 61- A, every Grama Panchayat may constitute a sub-committee for a specific purpose. Using this provision, the FES has been able to constitute hamlet level sub-committees by involving local communities to implement watershed development activities. As against this, the study selected CBOs implementing watershed development programmes in Anantapur District in Andhra Pradesh. The purpose of this comparative study was to learn and record the experiences and thereby articulate the same for bringing necessary policy changes in the formulation and implementation of watershed development programmes. The following were the specific tasks that the study focused for collecting necessary information from the field. The tasks were:

- analysing the roles and responsibilities of panchayats and CBOs;
- assessing leadership and management dimensions;
- exploring the participation of communities particularly of the disadvantaged groups;
- examining the mechanisms for creating awareness, monitoring the resources, equitable sharing of benefits and conflict resolution;
- examining the long-term and short-term strategies adopted by the panchayats and village based organisations for the execution of WSDP; and
- looking into aspects like water or soil-moisture conservation, employment, labour migration, social harmony and such other socio-economic and political aspects.

1.6. Sample Size, Method of Data Collection and Data Analysis

The unit of inquiry was the grama panchayat (GP), a lowest tier in the three-tier system of Panchayat Raj and the CBOs working at the village level. As is known, the three-tier system of Panchayati Raj consists of Zilla Panchayat at the district level, Taluk Panchayats at the taluk level and the Grama Panchayats at the village level. Below these, there is Grama Sabha, an electoral college, consisting of voters of the village, which acts as the watchdog of the system. All the levels of panchayats are directly elected bodies, and are formed by members belonging to SCs/STs, backward castes, women, as also general categories. In order to assess the performance of the selected five sub-committees, a 'performance scale' was constructed in the range between 1-4 points- wherein point 4 was considered as "very good", point 3 as "good" point 2 as "average" and point 1 as "poor". Using this scale, we analysed the performance of the sub-committees in terms of institutional, ecological and social (15 indicators were chosen for this purpose. For details, see, Chapter II).

One district each in Karnataka (Kolar) and Andhra Pradesh [Anantapur] was selected for the study, and for an in-depth analysis five villages in Karnataka and two in AP were identified. In Karnataka, the Foundation for Ecological Security (FES), the agency implementing WSDP through Panchayats - and Rural Development Trust (RDT) through Accion Fraternal as the PIA working in AP, were selected for institutional assessment. Both quantitative and qualitative methods like Focus Group Discussions (FGDs) and stakeholders discussions were used for the collection of primary data, as also secondary information. As regards sample strategy, 177 respondents in five sample villages in Karnataka and, a sample of 85 respondents in AP, based on probability proportional random sample, in two villages were contacted and interviewed. Data analysis was carried out both for social category, size class, and gender, wherever appropriate.

The final output of this study aimed at upgrading the capacities of the panchayats and skills of their personnel to enable to contribute a great deal towards developing a comprehensive community development plan. This would further result in bringing about a perfect coordination and understanding between various stakeholders as also the community involved in the execution of the watershed development programmes.

1.7. Limitation of the Study

One of the important limitations of the study was that it did not have control sample villages to assess the study objectives as its scope was limited to the process issues of institutional assessment rather than impact

assessment. Besides, the study aimed at documenting the best practices that had been carried out (by select NGOs in both the states) and drew lessons for policy interventions in the realm of PRIs and NRM. Another limitation of the study pertained to uniformity in analysing the data collected for the study. Owing to some structural and functional differentiation in the functioning of the institutions, both in Karnataka and Andhra Pradesh, there were variations in analysing the data and also in providing a unified format. For instance, a scale measuring 1-4 point was developed for assessing the performance of sub-committees in the case of Karnataka's study whereas for Andhra Pradesh's study, the analysis was done based on the qualitative information collected from the field.

CHAPTER II

PANCHAYATS AND WATERSHED DEVELOPMENT

This Chapter has two sections: In Section- A we have made a situational analysis of rural development in the states of Karnataka and Andhra Pradesh, and rural development policies of Union and State Governments with special reference to water and dry land development programmes. In Section-B of this Chapter, we have analysed the institutional performance of sub-committees, constituted and managed by the Grama Panchayats, in the implementation of watershed development activities in the State of Karnataka, whereas in Chapter-III we have examined the performance CBOs in Andhra Pradesh in implementing watershed development programmes.

Section A

Rural Development and Watershed Development-A Situational Analysis

Development of rural areas has been the prime objective of all our Five-Year Plans. Obviously, the rural development became a definite strategy for the improvement of the living conditions of the rural poor. In this direction, both central and state governments have been making efforts to mitigate the problems confronting rural areas and rural masses. Of many such policy interventions, the policy of strengthening irrigation sector to promote agricultural development received greater attention from the planners. This aim was to improve the economic conditions of those who were engaged in this sector either as cultivators or as agricultural labourers. However, even after full exploitation of the irrigation potential, more than 50 per cent of the cultivated area still continues to depend on erratic rainfall for production. Considering the limited prospects of irrigated regions in meeting the future food requirements, there was the need for a shift in development priorities in favour of dry land agriculture, which was backward in resource base. It is now widely recognised that improvement of dry land agriculture is of utmost importance with clear-cut strategies. Keeping this in view, integrated development of dry lands with watershed technology was taken up by the Government of India in 1992 in different agro-climatic regions of the country. This strategy has been followed-up by various state governments with their state-specific watershed development programmes, which vary in terms of size, cost, administration, people's participation etc.

Watershed development, which has adopted a multi-agency approach, involves different modes and partnerships-Union Ministry of Agriculture, Ministry of Rural Areas and Employment, Ministry of Forestry and Environment is involved in a minor way. Under the Ministry of Agriculture, National Watershed Programme for rain-fed areas (NW PRA) is the major initiative. Under the Ministry of Rural Areas and Employment, the Drought Prone Area Programme (DPAP) and Desert Development Programme (DDP) have been the two major schemes besides integrated wasteland development programme. As per 1994 guidelines, watershed development programme were being implemented in 337 districts of India under DPAP, DDP and Integrated Watershed Development Programme (IWDP). The 1994 guidelines, which were subsequently revised in 2001, based on the recommendations of Hanumantha Rao Committee, were circulated as guidelines for watershed development (GWD). The GWD aimed to bring local communities by proposing user-friendly organisational structure with watershed association and elected/nominated watershed committees undertaking field level implementation under the supervision of the project implementation authorities (PIA). During this period, a significant policy development took place in the form of passing of constitutional 73rd Amendment Act at the national level recognising the importance of panchayats in the formulation and implementation of rural and natural resource development programmes. The Eleventh Schedule of the Amendment entrusted the panchayats with functions that include agriculture, soil conservation, watershed development, social forestry, maintenance of community assets etc. As a consequence of this amendment, some efforts were made to involve panchayats in the implementation of watershed development programmes. However, the recent “Hariyali Guidelines” 2003 brought panchayats into a centre stage to manage the watershed activities in a full scale. Set in this backdrop, the following paragraphs focus on the situational analysis of rural and agricultural development with special reference to watershed development programme in Karnataka and Andhra Pradesh.

2.A.1. Karnataka

Karnataka is basically rural with a large population of its population living in the rural areas. As is the case elsewhere in the country, a large percentage of its rural population live below the poverty line. With a view to improving the quality of life of the rural population and to reduce the incidence of rural poverty, the State has adopted two-prong strategy of promoting overall development and also of grounding number of target- oriented grassroot level development programme (Aziz 2003).

Agriculture, which is the mainstay of the people in the state, is both diversified and segmented. Vast stretches of drought prone region and sporadic patches of irrigated area characterize Karnataka's agrarian structure. Rain-fed area constitutes a large share of agricultural land of the state and these areas face severe agro-climatic and resource constraints. Agriculture sector engages more than sixty per cent of Karnataka's work force. The share of agriculture in GSDP has decreased from 33 per cent in 1993-94 to 25.3 per cent in 2000-01 (Deshpande *et al* 2006).

Karnataka has given an important place for watershed development, because, 75 per cent of the cropped area in Karnataka depends upon low and uncertain rainfall. It has a geographical area of 19.049 M.Ha. and the net cropped area is 10.79 M.Ha. Out of this, 2.32 M.Ha. are irrigated and 8.479 M.Ha. are rain-fed areas. This rain-fed area is without any prospect of ever being able to receive any irrigation facilities. The State depends on dry land for more than half of its food production. In view of the above situation, more emphasis has been given for dry land farming in the State by way of developing dry land areas on watershed basis. The State has the highest proportion (79.87 per cent of geographical area) of drought prone area among all major states in the country and in absolute terms it has the second largest area (152.16 lakh ha) under drought zone, which is next to Rajasthan (218.95 lakh ha). The rain-fed area contributes around 62 per cent of the agricultural production in the state. Karnataka has adopted various types of watershed development programme financed by the government as well as private organisations. The total amount spent on watershed development programme in the state accounted for roughly Rs. 775.89 crores up to the end of March 2003. At present, the state is implementing 3,681 micro watersheds under different schemes. The Department of Watershed Development has planned to develop about 21.92 lakh hectares of untreated land by spending an amount of Rs. 1,250.47 crores under different ongoing schemes in the next 5-6 years (Deshpande *et al* 2006).

The initial impetus to watershed development in Karnataka came from Kabbalnala Watershed in Kanakapura Taluk of Bangalore Rural District in the year 1984-85. Later, four Dry Land Development Boards were set up, one in each Revenue Division to implement watershed programme in all the 19 districts in the State. In order to achieve better co-ordination in planning, implementation and supervision in watershed programmes, the Government created the Watershed Development Department with effect from 1.4.2000. All the watershed schemes and projects under state sector, central sector schemes, externally aided projects as well as district sector schemes relating

to watershed development were expected to be implemented through this Department.

2.A.2. Andhra Pradesh

Andhra Pradesh was among very few states in the country which heralded green revolution in the 70s. Agriculture and allied sectors in the state registered a growth rate of 2.21 per cent in the eighties and its performance was marginally better during the post reform period in the 90s (2.47 per cent). The growth rate in agriculture and allied sector was maintained during the 90s in the state roughly at the 80s level, despite significant reduction in the growth of crop output because of diversification of agriculture into enterprises like dairying, animal husbandry, poultry etc., which contributed more than 50 per cent to the state domestic product for agriculture. Despite encouraging trends in some of the sectors, the overall performance of agriculture in the last two decades remained poor in much below its potential (Rao and Dev 2005).

As regard to watershed development programmes, the State of Andhra Pradesh has been in the forefront in the implementation of these programmes in recent years. So far, the State initiated above 9,637 watersheds under the new guidelines of 1995 (CoRD 2005). The main principle adopted in the guidelines was special emphasis on the active mobilisation and participation of stakeholders in the programme including planning, implementation, and subsequent management. The guidelines have specified how watersheds should be developed, using the Micro-Watershed [500ha] as the basic unit for treatment. Of the 23 Districts of AP, the Drought Prone Area Programme is being implemented in 17 districts. Commencing from the late 1990s, the approach underwent gradual modification in the light of experience. As a result, the renewed programme envisages a great opportunity for improving the productivity, profitability, and sustainability of dry farming areas through social mobilization process. Watershed development can be seen as the only approach to ensure drought proofing and to mitigate the distress caused by frequent droughts.

In view of these expected benefits, a massive programme for development of all degraded lands in Andhra Pradesh in 10 years, was launched in 1997. The Action Plan for development covered wastelands, degraded lands, and degraded reserve forests. It was envisaged to develop 10 million acres of land by the year 2007, at the rate of 1 million hectares a year. About 2.7 million hectares were covered under 5,472 watersheds till 2002, which is the largest such scheme in the whole country till date.

Section B: Panchayats and Watershed Development in Karnataka

Karnataka is one of the earlier states to launch watershed development programme, dating back to early eighties. The first major landmark is the development of an institutional approach through the establishment of Dry Land Development Board (DLDB) with a multi-disciplinary approach (Deshpande *et al* 2003). In fact, this approach is being described as 'Karnataka Model' of watershed development. This model had four specific components, namely;

- integration of farm and non-farm activities;
- unique organisational structure;
- vertical and horizontal integration in the process of implementation; and
- combining social and technological components in an effective way.

Experiences in the organisation and management of watershed activities reveal that most of the watershed programmes adopted top-down approach by focusing on physical, soil and water conservation works [Deshpande *et al* 2003]. This meant that the local committees were seldom consulted, and they were treated as recipients rather than participants. Further, the method of approach was more technical rather than flexible and need- based. The cumulative effect of all these was the poor sustainability of assets created under the projects, after the withdrawal of the Government from the scene on ending the project. This, in fact, made a space for the active involvement of the communities in the programme, and it has now become a pre-requisite for the success of programmes like watershed development, water supply and sanitation and management of tanks. It was strongly felt that the active involvement and participation of the communities would ensure equity, efficiency, and sustainability in the programme and hence, it was quite crucial for the success of the programme. Thus, as a learning experience for all funding agencies, even the state-sponsored watershed development programmes (WSDPs) laid emphasis on the participation of the stakeholders as an essential pre- condition for the sustenance of the programme [Deshpande *et al* 2003].

2.B.1. Institutions and Organisations Involved in WSDP

At present, in Karnataka, both State Government Departments and International Agencies, like the World Bank and DFID [Department for International Development, Government of United Kingdom] are involved in the implementation of watershed development programmes in the backward districts of the State. For instance, the Karnataka Watershed

Development Society, popularly known as KAID, has been implementing the programme with financial support from the DFID and SUJALA through the World Bank. KAWAD is implementing the programme in three districts, viz., Bijapur, Bellary, and Chitradurga, and SUJALA programme in five districts, namely, Chitradurga, Kolar, Tumkur, Dharwad, and Haveri. Both these projects have been following a bottom-up approach by covering all aspects of the projects, particularly social, institutional, community and technical, thereby making the process all-inclusive, participative and cost-effective. The projects provide for diversified livelihood opportunities to the stakeholders, including marginalised sections of the society such as women, SCs and STs and other vulnerable groups. In order to facilitate this, the focus of the projects has been to ensure livelihood security in the drought-prone areas through environmental improvements and non-land based activities, which are looked after by the SHGs. The project activities are formulated and implemented by the Micro-Watershed Development Committees [MWDCs] formed at the micro-watershed level. The activities undertaken are both land based and non-land based; the land based activities are soil and water conservation, land treatment, and agricultural demonstration such as planting of fruit orchards, propagation of drip irrigation etc. The non-land based activities consist of income generating activities and enterprises for the landless, poor and vulnerable groups of people, promotion of community based organisations at various levels for ensuring community participation in the management of the project, and sustaining the project impacts beyond project life.

The above projects are being implemented with the support of competent NGOs called as “Partner NGOs (PNGOs)”. However, it is to be noted that these agencies rarely use the services of PRIs, particularly grama panchayats in implementing the projects. As noted in a study (Joy and Paranjape 2003: p 113), “The relationship between CBOs and PRIs is, however, not always that of a partnership. The Micro Watershed Development Committees (MWSDCs) have been established outside the framework of PRIs. The Zilla Panchayat has raised concerns that PRIs have been ignored by the watershed project”. Further, according to a field study conducted in the districts of Bellary and Tumkur indicates, “Most of the NGOs work with PRIs at the district level, because they have to, and coordinate with Grama Panchayats at the local level. However, there are fewer NGOs who are implementing watershed projects and working with Grama Panchayats as an explicit policy decision to strengthen local democratic institutions. Most are working with the Grama Panchayats either

because it is practical to do so, or because they cannot avoid doing so” [Baumann 1998: p 51]. Further, as revealed from this study, “The reason for including Grama Panchayats, or forming links with them, varies from project to project. The reason given by many...for forming links with Grama Panchayats is functional. They were contacted because they could not be easily avoided - At other times they were contacted in order not to antagonize powerful local interests” (p 54). This clearly shows that although there were clear-cut guidelines to implement the watershed programme through PRIs, the respective State Governments - such as Karnataka Government - have fallen short of expected norms in adhering to the guidelines.

The foregoing description reveals that the guidelines have given priority to PRIs in implementing the watershed development activities whereas the agencies and NGOs reposed faith in CBOs as implementing agencies. Notwithstanding this, there were some organisations, still wanting to work with PRIs for implementing the watershed activities. Organisations like FES (Foundation for Ecological Security) were exceptions in this regard and this calls for in-depth discussion.

2.B.2. About FES

The Foundation for Ecological Security (FES), a sister organisation of National Tree Grower’s Federation {NTGCF), was established in February 2001, to address the critical issues of ecological restoration through concerted and collective efforts of the rural communities. The mandate of the Foundation has been to work towards ecological restoration and conservation of land and water resources in the uplands and in other eco-fragile, degraded and marginalised zones of the country, and to set in place the processes of coordinated human effort and governance to this end. In order to meet this goal, the FES has been collaborating with and working through a range of democratic village institutions, their apex bodies, civil society organisations and governing bodies at the local, state and national levels. Further, the Foundation aims at promoting stability of the eco-systems through the protection and restoration of biological diversity, helping in the creation of a conducive legal and regulatory environment and a coherent perspective on forest and water related land-use policy through the dissemination of knowledge and information, and more importantly, providing technical and financial assistance to democratic village institutions for promoting initiatives that are ecologically sustainable, socially and economically equitable.

Objectives of FES

The objectives of FES are:

- to work in marginalised, ecologically fragile and politically marginalised areas, and as far as possible, work with entire landscapes, together with all the interrelated communities within it, through their range of arrangements, on their land and aquatic resources, whether commons, public or private;
- to promote stability of ecosystems through the protection and restoration of biological diversity in all its dimensions, revitalizing of hydrological regimes, and of nutrient cycles;
- to assist and collaborate in the creation of a coherent perspective on forest and water related land policy as well as a conducive legal and regulatory environment, and to disseminate knowledge and information through the media, and through dialogue with policy makers, legislators, bureaucrats, and academicians, other agencies, as well as public-at-large; and
- to undertake and collaborate studies and research on all related dimensions to further the understanding of ecological processes and the biology of endemic species, as well as the various aspects of the political economy of the associated human communities.

The Papaghni Uplands Project

The Papaghni uplands project was one major project implemented by the FES in Kolar district of Karnataka. The purpose of this project was to facilitate strengthening of village institutions for local governance, and management of natural resources in the degraded upper catchment of the Papaghni river basin, increasing the biomass and water availability to address the livelihood concerns of the communities and bringing in a balance between conservation and the use of natural resources. The specific objectives of the project were:

1. to facilitate the evolution of village institutions, mainly panchayat raj and village forest committees for management and governance of the natural resources of land, water and forests and, set in place the process of collective decision- making;
2. to strengthen and provide for optimum utilization of these natural resource base land, water and vegetation by appropriate technological interventions for in-situ moisture conservation activities so as to check soil and water erosion with an interface and performance for the farmer's wisdom;

3. to sustain community action for the operation and maintenance of the assets created under the watershed, and establishing mechanisms for sustainable management based on equitable sharing of benefits of the resources; and
4. livelihood concerns of the resource poor and the disadvantaged section of the community and women to be addressed by bringing a balance between conservation and judicious use of resources.

The above project initiated in 1989 has been working with various types of village institutions, particularly with constitutionally mandated panchayats and village forest committees to address the issues of regeneration in different categories of lands, specially grazing and forest lands within the Papaghni river basin. The project has covered an area of 63,000 Ha situated in the northeastern part of the district along the catchment of the river Papaghni, and is spread over four taluks, namely, Srinivasapura, Sidlaghatta, Chintamani and Bagepalli. Semi-arid conditions, subsistence dry land agriculture, and receding groundwater levels characterize the area.

The expected project outcomes were in terms of:

- increased number of viable village institutions in the delineated watershed areas where the hamlet level grama sabha functioned effectively for the management of natural resources;
- increased productivity of the common lands with a positive impact on agricultural lands;
- increased fuel wood and fodder availability and its sustainable utilisation to balance the demand and conservation;
- sustainable use and management of water by the communities at local and regional levels;
- increased livelihood options for the poor and the disadvantaged sections; and
- concerns of women and deprived groups being taken care of in the decision-making process.

The FES functioned through a Board of Governors, consisting of seven members, and met once in three months, and thus responsible for framing broad policy decisions. The Executive Director of FES, who was accountable to the Board, acted as Chief Executive and was responsible for executing the activities. The FES had Spear Head Teams (SHTs), headed by team leaders, who were authorized to undertake activities according to the approved work plan and budget. The SHTs consisted of cluster units and were responsible for working with a number of village institutions. Each

cluster unit had at least one Project Officer, and two or three other team members, who included locally hired field associates. A significant feature of these teams was that the decision-making and tasks within the team were assigned based on experience, responsibility, interest and area of team members. Once approved, the teams worked relatively independently, based on their project context and the annual work plan.

The FES worked in semi-arid regions with tracts of common land still under common ownership of upland communities that generally had minimal services and limited resources. The project worked with and supported communities till such time the beneficiaries were able to manage their common land and ran their village institutions equitably even without project funding. In meeting these tasks, the FES approach had been both participatory and decentralised and more so in identifying and implementing project initiatives that were appropriate to the local needs. This grassroots approach was its main strength, especially for work in harsh terrain, severely degraded common lands, and erratic rainfall and marginalised communities. As noted in one of its review reports (Canada-Agriteam *et al* 2003), “A key feature of the project’s approach has been to gain a clear understanding of local issues-whether at the institutional, political or social level-and then to work closely with the community at every stage to ensure ecologically relevant results.”

Apart from the above, the most important activity being carried out by the FES and its teams was to establish tenurial rights to the communities which were necessary to bestow a sense of ownership and responsibility to manage the lands. The tenure of grazing lands was found to be relatively secure with the panchayats, as the land had been earmarked to each village depending on the number of cattle it maintained.

Regarding physical interventions, the FES was engaged in land development activities, plantation, and regeneration. The land development activities included tasks such as adopting soil and moisture conservation measures, treating gully checks, contour trenching and bunding, vegetative checks, check-dams, water harvesting structures, percolation ponds, cattle ponds etc. Under plantation and regeneration, generally endemic species that suited soil and climatic conditions were promoted through planting and dibbling of tree seeds. The other important activity was the promotion of fodder growth. Grazing lands formed a major part of the commons in Papaghni, and to improve these highly degraded lands, leguminous fodder species were being promoted. Identifying and promoting local varieties of grass species were also being emphasised. In addition, private land plantations

were being promoted so as to meet the energy requirements of the community. The FES was also involved in energy conservation activities such as installation of bio-gas plants, smokeless chullas and also distribution of pressure cookers. In addition to these activities, the FES was involved in advocacy and capacity- building activities which included environmental education, campaigning through story telling and street plays, publishing Rural News Letter, imparting training to staff, networking with other institutions and NGOs, and developing and application of GIS inputs, manuals and guidelines (social, institutional, technical and biophysical).

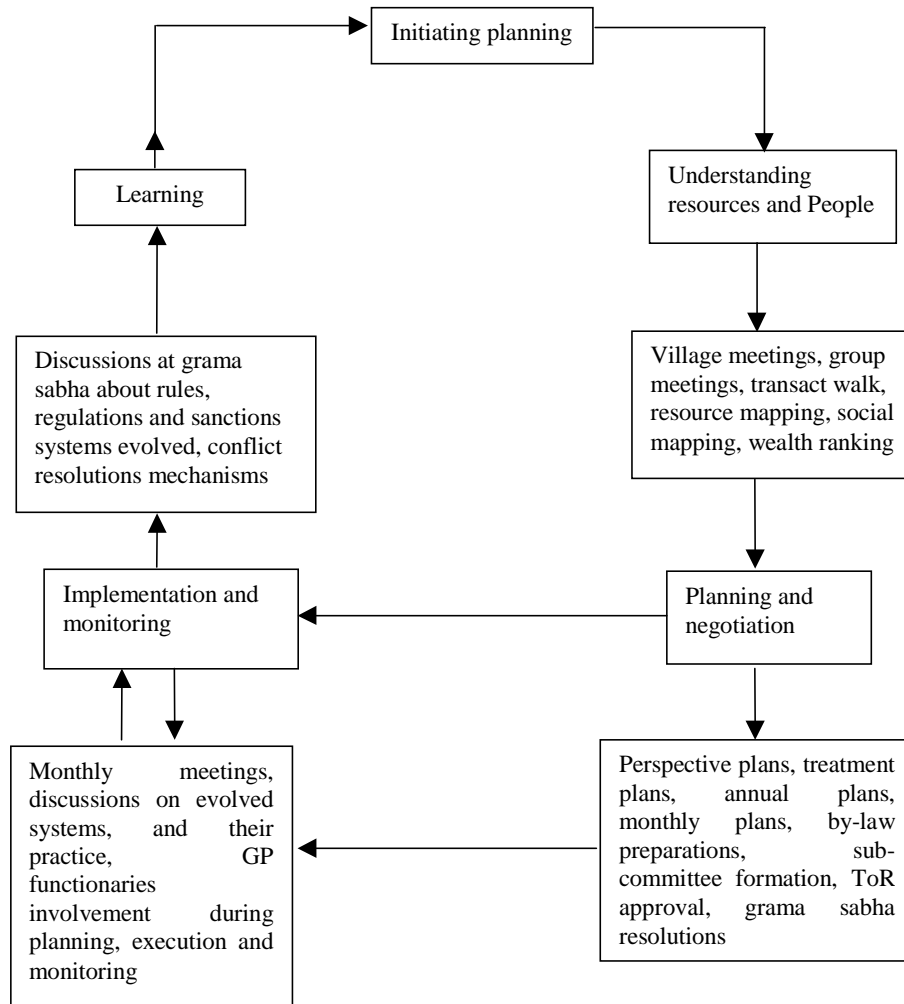
2.B.3. Spearhead Team in Karnataka

The Spearhead Team in Karnataka was constituted in the year 1989. To begin with, the team was providing technical inputs to the people on aspects like agriculture, forestry, etc. In course of time it was realised that the technical inputs alone would not suffice since the nature of the project was essentially social and that it needed institutional processes. A multidisciplinary team was constituted to facilitate the processes. Currently, the team consists of officers with multidisciplinary background such as social sciences, rural management, ecology, civil engineering, and agriculture. Field associates were recruited locally while the officers were inducted from professional institutes of repute such as Xavier Institute of Social Services and Management and Tata Institute Social Sciences. The project currently works under three clusters each consisting of officers and field associates. Overall coordination of the teamwork was done by the Team Leader. The team structure (See, Chart-2) of FES in Chintamani was as follows:

The FES entrusted some important responsibilities to the teams to carry out in the field. The prime role of the team, as seen in Chintamani, was to facilitate the formation and strengthening of village institutions for the management of natural resources. In this regard, the team had the following responsibilities (See, Chart-3):

Chart 2: Spearhead Team Structure

Srinivasapura Taluk	Sidlaghatta Taluk	Bagepalli Taluk
Overall Coordination-Team Leader		
2 Project Officers	2 Project Officers	2 Project Officers
3 Field Associates	3 Field Associates	3 Field Associates
	Supporting staff	
	Accountant and Driver	

Chart 3: Processes of Action Learning Cycle

1. facilitating the village institutions for preparing perspective plans by using participatory tools;
2. evolving village specific rules and regulations for natural resource management;
3. facilitating recognition of the committees and the approval of perspective plans from the panchayats and the Forest Department; and
4. capacity- building of the communities through various processes such as:

- regular interaction and discussions with the villagers;
- organising visit of the villagers to interact and learn from experiences;
- organising training programmes for the panchayat functionaries on the role and responsibilities and with regard to the management of natural resources;
- training on the maintenance of books and accounts; and
- skill development training for the construction of improved cooking stoves and bio gas plants.

2.B.4. Working of Sub-Committees

A. Steps Followed to form Sub-Committees

On an average, it took five to six months to constitute sub-committees. During this formative period, the team would highlight about the FES intervention, importance of community participation and ownership, and objectives of the programme.

Following the above, a village level survey would be conducted to collect information pertaining to Gomala Land and Forest Land. The information was collected through regular field visits and participatory methods like transect walks, social mapping, and discussions with the villagers.

The next step taken by the team was of initiating talks about the project with the village leaders first and later, with the general public by holding night meetings. Experiences have revealed that the team used to find it difficult to convince the leaders, who would identify themselves with political groups such as Congress-I, BJP, JD(S) and convincing them normally took time ranging from 15 to 40 days.

After convincing the village leaders belonging to different communities and groups, the first grama Sabha meeting was held in the premises of the village.

After the first grama Sabha meeting, the farmers of the village were given an induction programme and also taken on exchange visits to other villages where FES had already been working. Women members, consisting of 20 to 25 members, were taken separately on an exposure visit. These visits were made to motivate and to infuse confidence in them so that they could also initiate and manage the projects. In the induction programme, the community members were apprised of the importance of preserving gomala land, causes of poor rainfall, of community participation, protection of soil and water, problems of migration and seeking cooperation from the community. The overall effect of this exercise was to rejuvenate natural management of community resources by the communities themselves.

The next step in the process was to hold a village meeting, which would be attended by the Adhyaksha, Upadhyaksha and members of the Grama Panchayat. For this meeting, prior information was provided through hand-written notices and tom-tom. This meeting was called specially to form sub-committees and discuss terms of reference. An important feature of this committee was that it functioned with no designated President, Secretary and Treasurer. It consisted of five members with one Grama Panchayat member and four nominated by the community, which included one woman, one from SC/ST. Of the five members, one was designated joint signatory to help either the Adhyaksha or the Secretary of the grama panchayat, in maintaining accounts and book-keeping.

A separate account called 'Papaghni Jalanayana Abhiruddhi Upa-Samithi' was opened in the panchayat office and an account was also opened in a Bank. The initial deposit of Rs. 500/- required for the purpose was collected from the respondents in the village at either Rs 10/- or 5/- per household. The names of the contributors were entered in the cash book. The sub-committee maintained four files viz., one each for resolutions, voucher maintenance, fund utilisation and details of micro-plan. In addition, the sub-committee maintained two more documents, namely, Social Observation Book, for recording the village profile, and Technical Observation Book for technical details of the project.

After the formation of the committee, a formal letter was sent to the Grama Panchayat for latter's approval, for which a special meeting was called by the panchayat. In this meeting, the FES made a detailed presentation about the project and sought panchayat's approval and support. The grama panchayat discussed this in its ensuing general body meeting before it gave its approval.

As regards financial arrangements, the FES sent a Demand Draft (DD) directly to the grama panchayat and the same was deposited in the 'NRM Account', opened exclusively for this purpose. The payments were made through cheques which were drawn by the sub-committees. Consequent to this, the sub-committee had to maintain a passbook for its day- to- day transaction. In addition to this, the committee maintained a 'Grama Nidhi Account' for meeting the expenditure incurred on repair works. The project proposed to collect Rs. 40 from each household for maintaining the grama nidhi account.

The sub-committee was vested with the important responsibility of preparing 'Micro-Plan' for the period covering five years. In addition to this, the committee also prepared 'Annual Plan' and 'Monthly Plan' to

implement micro- watershed activities. These plans needed grama panchayat's approval prior to their execution. The sub-committee met once in a month to plan out its activities and also to monitor the progress of project activities. One of the significant features of the project was that the sub-committees themselves implemented and monitored almost all the project activities, including technical activities, without engaging contractors and middlemen. On an average, the treatment coverage area of the gomala land ranged between 50 and 250 acres. The important activities carried out were soil and water conservation including construction of structures like gully checks, boulder bunds, earthen check, nala bunds (20 to 28 metres), pits and trenching, bounding trench (one and a half feet), planting of seeds, including fodder seeds, gokuntas or cattle ponds for the animals, and planting of tree seeds like *Pangemia pinnate*, *Tamarind Cindica*, *Neem*, *Ficus Religiosa*, *Lambina* and *Mango* trees in common lands.

2.B.5. Physical and Financial Progress of the Watershed Works Implemented by FES

The foregoing description provides a synoptic view of the nature, goals and philosophy of FES organisation in carrying out NRM activities, and its organisational, institutional and managerial strengths. In the following pages, we have made an attempt to present the operational aspects concerning the implementation of these activities. Table-1 has presented the physical and financial achievements made by the FES, Chintamani, in implementing watershed development activities with the support and cooperation of grama panchayats.

As seen from the table-1, the FES has been implementing a number of watershed development activities with the support and cooperation of grama panchayats. The data presented for the three-year period show that the prime activities of the FES have been land development, soil and water conservation and regeneration activities which included planting seedlings and fodder development. Of these activities, land development constituted a major component with financial outlays running to, on an average, 47.42 per cent a year, followed by soil and water conservation activities at 19.49 per cent of the total expenditure every year. The regeneration has been the other important activity undertaken by the FES and to implement this, it had spent, on an average, 16.18 per cent of its funds. It is significant to note from the table that the expenses incurred on the day-to day administrative activities had declined substantially over the years, indicating improved efficiencies in the management of resources by the community.

Table 1: Statement Showing Physical and Financial Progress of the FES in Executing Watershed Development Activities

Sl. no	Activity	2001-02		2002-03		2003-04		2001-2004
		Physical	Financial (in Rs.)	Physical	Financial (in Rs.)	Physical	Financial (in Rs.)	Average of three years (in %)
1.	Planning and survey of new villages	12 (GP-SC)	1998 (0.04)	8 (GP-SC) 5 (VFC)	1,3751 (1.13)	7 (GP-SC) 4 (VFC)	39,689 (1.96)	(1.04)
2	Number of persons enrolled as members	M-942 F-821	-	M-845 F-821	-	1,250	-	-
3	Land development (in ha)	1,228	293,0200 (65.65)	362	572,440 (46.83)	326	602,500 (29.76)	(47.42)
4	Soil and water conservation (recharging units)	01	1,22,40 (0.27)	16	391,355 (32.01)	17	530,670 (26.21)	(19.49)
5	Total area (regenerated in ha)	1,021	118,9422 (26.65)	08	18,730 (1.53)	340	412,187 (20.36)	(16.18)
6	Development of private land (in ha)	-	-	4,120	-	7,252	199,165 (9.84)	(3.28)
7	Training and development	21	94,237 (2.11)	52	80,299 (6.56)	21	94,237 (4.65)	(4.44)
8	Energy conservation	38	140,310 (3.14)	-	133,830 (10.96)	114	140,310 (6.93)	(7.01)
9	Administrative expenses	-	95,315.50 (2.14)	-	11,860 (0.98)	-	5,913 (0.29)	(1.14)
	Total		446,3722.50 (100.00)		1,222,26 5(100.00)		202,4671 (100.00)	(100.00)

Source: FES Office, Chintamani

Note: GP-SC (Grama Panchayat-Sub-Committee), VFC (Village Forest Committee). Figures in parentheses indicate percentages

2.B.6. Profile of the Hamlets Selected for the Study

In order to carry out a detailed study, we selected five hamlets, termed as project hamlets, namely, Bovinavarapali, Ooramadigapally, Herichanahally, Gangehally, and Vyapalhally. In these hamlets, the FES had formed five sub-committees to implement watershed activities. These hamlets fell under different grama panchayats, viz., Bovinavarapalli under Thimmapally grama panchayat of Bagepalli taluk; Ooramadigapally and M Vyapalapally under Mudimadagu grama panchayat of Srinivsapura taluk; and Hirechenahally and Gangenahally under Dibburahally grama panchayat of Sidalghatta taluk. As regards the socio-economic profile (**See, Annexe A**) of these hamlets, it was observed that male population (52.19 per cent) was higher than the female population (47.81 per cent). Significantly, Scheduled Caste population was more (36.05 per cent) in number in the

project hamlets compared to other caste groups such as other backward castes (20.22 per cent), OBC (27.76 per cent) and Scheduled Tribe (15.83 per cent). Of the five, Bovinavarapalli and Ooramadigarapalli were homogenous hamlets, in terms of caste composition, i.e., comprising entirely of Thogataru, a weaving community and Scheduled Castes respectively. Agriculture was the primary occupation (81.36 per cent) of the people in all the hamlets. As regards land use, the gomala lands at 48.50 per cent of the total was the highest category, followed by private land (19.69 per cent), dry land (12.68 per cent), and forest land (8.77 per cent), which pointed to the prevalence of drought conditions in and around these hamlets. As regards landholdings, a majority of the holdings fell in the category of marginal (55.67 per cent) and small farmers (17.53 per cent). These conditions provided an ideal background for the intervention of FES in these hamlets for the implementation of its variety of watershed development projects. As noted from the table, the activities implemented in these hamlets focused on the protection of gomala land (250 hectares), protection of forest land (230 hectares), plantation and sowing activities (192 hectares), drainage line treatment (450 hectares) and water conservation activities such as construction of earthen bunds, check-dams and cattle ponds. As a support measure, the FES had also been providing financial support to the sub-committees constituted with the support of grama Panchayats, and the amount was sanctioned based on the action plan prepared by the sub-committees and as approved by the grama panchayats.

2.B.7. Performance of Panchayat Sub-Committees

Using the institutional performance matrix, we developed certain important indicators, and grouped under institutional, ecological and social aspects to assess the working of the sub-committees. These indicators were assessed by constructing a 1-4 point scale (for details, see, under methodology). The indicators were:

Institutional

1. Representation of disadvantaged groups.
2. Participation by sections of the village in grama sabha meetings.
3. Grama Sabha as a decision-making body, as it represented the entire community.
4. Nature of decision-making process- whether collective or unilateral.
5. Number of meetings held for planning and implementing watershed activities.
6. Level of transparency ensured in maintaining accounts and its access to the members.

7. Extent of decentralisation in terms of autonomy in taking decisions and their implementation.
8. Sustainability of the structures created under the project.

Ecological

9. Improvement in vegetation and reduction in soil erosion.
10. Improvement in groundwater recharge and water table.
11. Availability of fuel wood and fodder.
12. Environment awareness among the communities.

Social

13. Improvement in the living conditions of the poor through employment generation activities and reduction in migration.
14. Gender equity in terms wages paid and opportunities provided.
15. Participation of SC/ST and women in watershed activities.

Table 2: Performance of Sub-Committees in the Implementation of WSDP (Watershed Development Programme)

Performance indicators	Boyina- varapally (points scored)	Hirechen hally (points scored)	Oorama- digapally (points scored)	M Vyapala pally (points scored)	Gangena hally (points scored)
Institutional					
Representation of disadvantaged groups	4	4	4	3	4
Participation by sections of the village in grama sabha meetings	4	4	4	4	3
Nature of decision-making process, whether collective or unilateral	3	3	3	3	3
Number of meetings held for planning and implementing watershed activities	4	4	4	4	4
Level of transparency ensured in maintaining accounts and its access to the members	4	3	4	3	3
Extent of decentralisation in terms of autonomy in taking decisions and their implementation.	4	4	4	4	4

Cont....

Sustainability of the structures created under the project	4	3	4	3	3
Ecological					
Improvement in vegetation, reduction in soil erosion	4	4	4	4	4
Improvement in ground-water recharge and water table	3	4	3	4	3
Availability of fuel wood and fodder	3	4	3	4	3
Environment awareness among the communities	4	4	4	4	2
Social					
Improvement in the living conditions of the poor through employment generation activities and reduction in migration	3	4	3	4	2
Gender equity in terms of wages paid and opportunities provided	3	4	4	4	3
Participation of SC/ST and women in watershed activities.	3	4	3	4	2
Total points scored	50	53	51	52	43
Points scored in percentages	3.33	3.53	3.40	3.46	2.86
Performance in grades	Good	Good	Good	Good	Average

Note: For arriving at 'grades' 1 to 4, a point scale was constructed wherein point-4 was considered as "very good", 3 as "good", 2 as "average" and 1 as "poor".

As revealed from the above table, of the five sub-committees chosen for an in-depth analysis, four had done substantially well in carrying out their assigned tasks, while one i.e., Gangenally sub-committee had shown average performance. We took 15 indicators to assess the performance of the sub-committees like representation and participation of disadvantaged groups in the democratic functioning of the village like decision-making process, transparency and accountability in their working, linkages between the grama panchayats and the office-bearers of the sub-committees, overall participation of the community members in the activities of the committees and more importantly, sustainability of the committees.

To understand the decision-making process, the proceedings of the general body meetings of the committees were looked into. By and large, the decisions of the committees were unanimous and taken collectively. Decisions pertaining to the selection of works, allocation of funds, ensuring

equal wages and other related watershed activities were found to have been taken after holding detailed discussions, and these decisions were further discussed and approved in the community meetings. It is significant to note here that the FES had arranged training programmes to the office-bearers of the sub-committees including special training to treasurers for managing the project funds. In many of the sub-committees, women were found working in the day-to-day maintenance of accounts. Significantly, the women members were found more vocal than men, not only in discharging their duties but also in expounding the works carried out by their committees. In fact, women members accompanied the research team on its visit to work sites. In all the sub-committees we visited, we could see the active involvement of community members belonging to disadvantaged groups of the society. Active involvement of the community members was clear from the high enrolment as members. In order to promote equitable natural resource access, the FES had been able to involve the community members by providing universal membership for all adults, and thereby providing participatory space to the weaker sections in the formal process of decision-making. Thus, by the end of March 2003, there were 8,438 members (4,778 males and 3,660 females) enrolled in the three clusters under the project.

The project's strength was its participatory, decentralized approach in working with local communities to identify and implement project activities suited to the local context. This was largely reflected in the working of the sub-committees. A detailed analysis of the proceedings of the meetings reveals that the sub-committees were meeting regularly to discuss the project works, on an average, once a month. This had helped the communities to gain a clear understanding of local issues and consequently, to work closely among themselves at every stage of the project.

The above approach had resulted in making the project activities more transparent and accountable, and this was very much clear from the fact that project documents were made accessible to every member of the community. Interviews with the members of the sub-committees and of the community revealed that they had access to all the documents maintained by the committee. A practice profitably followed was to read out in the meetings all the information related to the project like the physical and financial progress achieved, letters and circulars received from the FES etc. More important was the preparation of action plans by the community which ensured the much needed transparency and accountability to the process.

The above approach had further demonstrated one of the traits of decentralisation, i.e., the extent of autonomy enjoyed by the local institutions

in the formulation and implementation of developmental activities. Significantly, the sub-committees had such status despite the fact that these committees were functioning under the direct monitoring and supervision of the grama panchayats and the FES. The office-bearers of the committees who were interviewed told us that though they were answerable to the President and the Secretary of the grama panchayats in matters of project management, the latter hardly would interfere. In fact, the panchayat functionaries were largely cooperative. However, this was not the case with some of the sub-committees that we visited. For instance, Ooramadigapally, where the response of the grama panchayat was initially slow despite conducting a series of meetings with the panchayat functionaries, and particularly, with the Secretary and the President of the Panchayat, the Adhyaksha and the Secretary were lacking in cooperation and created problems to the sub-committee, especially in the matter of giving approval to the formation of sub-committees, micro plans prepared by the committee and in clearing cheques. Many a time the party affiliation or differences and caste as also factors were found to be behind such frictions. However, in course of time these things changed for good and now the attitude of the panchayat functionaries has become one of cooperation and understanding as experienced by the members of the sub-committee.

Apart from looking at the performance of the committees in terms of their institutional parameters, we also made an attempt to examine the performance of these committees from ecological and social angles. Social aspects like improvement in living conditions of the poor through employment generation activities and reduction in migration, gender equity in terms of wages paid and opportunities provided and participation of SC/ST and women in watershed activities were discussed also separately under perceptions of the respondents. As stated above, the ecological performance was assessed in terms of implementation by sub-committees of watershed activities for improving vegetation, reducing soil erosion, improving groundwater recharge, availability of fuel wood and fodder, mandays generated through wage employment and environmental awareness spread among the communities. The following table provides information on this:

As seen from the table-3, the sub-committees were giving top priority to implementing watershed activities pertaining to land development, soil, and water conservation. Out of the total expenditure incurred by the sub-committees about 82 per cent was spent on treating gomala land, checking soil erosion and saving water through the construction of water harvesting structures such as check-dams, nala bunds and cattle ponds.

The next in order was planting activity (14.64 per cent), which included planting of local species for regeneration of vegetation and fodder augmentation. As referred to earlier, the expenditure incurred on day-to-day administration was as low as 0.32 per cent of the total expenditure, which, in turn, spoke of the austerity measures adopted by the sub-committees. In terms of employment generated it was significant to note that women (55.05 per cent) had an edge over their counterpart men (44.95 per cent) in respect of availing the employment opportunities created under the project.

Table 3: Details of Expenditures (in Rs.) Incurred on Watershed Development Activities Implemented by the Sub-Committees between the Period 2001-02 & 2003-04

Name of the hamlet	Land development and soil and water conservation	Plantation	Training	Energy conservation	Administrative expenditure	Total	Mandays generated	
							Men	Women
Bovinavarpally	158,480	25,701	6,809	400	1,106	192,496	4,058	3,414
Ooramadigapally	258,760	18,064	5,091	2,700	1,480	286,095	4,483	5,878
M. Vyapalapally	270,720	13,920	5,487	22,985	1,085	314,197	5,276	8,052
Hirechenahally	426,460	133,344	2,866	0	671	563,341	2,712	3,742
Gangenahally	272,480	56,893	6,325	0	1,155	336,853	2,649	2,398
Total	138,6900	247,922	26,578	26,085	5,497	1,692,982	19,178	23,484
Percentage to the total	81.92	14.64	1.57	1.55	0.32	100.00	44.95	55.05

Source: Compiled from the documents of the Sub-Committees

2.B.8. Perceptions of the Respondents

The views and perceptions of the respondents, the main stakeholders, about any development programme or project should serve as a benchmark for assessing the outcome of such schemes. Also, since they were the ultimate beneficiaries, they should be able to react and comment on the process observed for formulating and implementing the programmes or project activities. Keeping this in view, an attempt was made to analyse the socio-economic profile of the interviewed respondents as also their perception of the project activities implemented by the sub-committees.

Socio-Economic Profile of the Respondents

A study of the socio-economic profile (See, **Annexe B**) of the respondents drawn with the help of a questionnaire helped to understand their attitudes, thinking, and concern about various issues. Its relevance was seen more in terms of how certain activities were greatly influenced by

the mental and moral qualities of men and women who participate in such activities. As could be seen from Annexure B, of the total respondents interviewed males constituted 70.62 per cent and females 29.38 per cent. As regards caste composition, about 56 per cent belonged to Scheduled Castes and Scheduled Tribes followed by backward castes (14.69 per cent) and others (29.38 per cent). The educational level of the respondents indicated that 64.40 per cent were illiterate; 22.60 per cent had primary level education; 9.61 per cent had high school education and 3.39 per cent had attained PUC level education. In all the four hamlets, agriculture was the primary occupation of 81.36 per cent of the respondents followed by agricultural labourers (14.12 per cent). As regards family income (annual income), about one-third of the respondents earned less than Rs. 3,000/-; 19.77 per cent in the range of Rs. 3,001-4,500; 32 per cent between Rs. 4,501 and 8,000, and 12 per cent between Rs. 8,000 and 10,000 per year. Significantly almost all the respondents came under the “below poverty line” group (less than Rs. 20,000/). Seen in terms of landholdings, 14 per cent of the total respondents did not own land for cultivation and hence, depended largely on wage labour. Of the remaining respondents, about 85 per cent owned landed property, a majority of them being marginal or small farmers. . Field studies have revealed that most of these farmers were working as wage labourers, and were unable to cultivate their lands due to persistent drought conditions. Significantly, all the respondents had independent houses, either built by own funds or taken under government housing schemes. A majority of the respondents was found rearing a good number of small ruminants, especially sheep. The respondents owning milch animals were found effectively engaged in dairy related activities. For entertainment, thirty per cent of the respondents were dependent on radio and while a few respondents had television. Sixty-eight per cent of the respondents, especially women had been benefited from FES intervention for using smokeless *chullas*.

Membership in Village Institutions

Membership of people of different categories, simultaneously belonging to different caste groups and size classes, in community based village institutions endowed participatory character of such institutions. The FES had an important goal to fulfill in promoting universal membership for all adults in the community. It was significant to note that all the interviewed respondents had enrolled as members of the sub-committees constituted under the project. This clearly showed the commitment and involvement of the community in the project, so essential for the sustainability of the project. Viewed in terms of social categories, 56 per cent of the respondents belonged

to vulnerable groups like SCs and STs, followed by respondents belonging to other castes (29.38 per cent) and backward caste groups (14.69 per cent). Small farmers and marginal farmers together constituted 70 per cent of the total respondents, and it was clear that the sub-committees had representation of members belonging to different caste groups and size classes (**See, Annexe C**).

Payment of Membership Fee

Mere enrolling oneself as member might not ensure one's own commitment to the system, unless he or she transformed himself or herself as one of the key functionaries of the system. Such membership became important for running entities like community based institutions. Seen in this context, the FES was found successful in enlisting community members as members of Grama Sabha by making them pay the membership fee, which ranged from Rs. five to fifteen (**See, Annexe D**). The sub-committees used this amount for opening a Bank account.

Almost all respondents had paid their membership fee, irrespective of the social category and the size class they belonged to. Among the social categories, 99 SC/ST respondents had paid Rs. 890/- followed by 26 respondents (Rs. 260/-) belonging to Backward Castes and 52 to other caste respondents (Rs. 500/-). Although there were variations in the payments, the spirit behind such payments demonstrated community acceptance, involvement, and participation in project activities.

Attendance of Respondents in Grama Sabha Meetings

Attending meetings like grama sabha meetings is an important indicator for assessing the involvement of community members and their faith in the functioning such institutions. Under this project, the grama sabhas had been playing a very important role and the success or failure of projects depended very much on the working of these institutions. Keeping this in view, we made an attempt to ascertain from the respondents, whether they were able to find time to attend the grama sabha meetings (**See, Annexe E**).

It was significant to note that 85.31 per cent of the respondents interviewed (drawn from different caste groups and size class) had attended the grama sabha meetings organised by the FES in their respective hamlets. More than 80 per cent of the respondents from each of the hamlets attended the meetings. Between social groups, the percentage participation of SC/ST groups was better compared to other caste groups. The respondents (14.69 per cent) who did not make themselves free to attend the meetings

reported that they could not attend the meetings either due to pre-occupation with the household work or had gone out to work or had not received information about the meeting. Those attended told us that they had prior information about the meeting and also sat through the entire duration of the meeting. In order to disseminate information regarding holding the meeting, the FES had adopted various methods such as tom tom (beating of drum) and door- to- door canvassing.

Respondents Giving Suggestions

One of the important criteria to assess participation in any meeting is to find out the extent of involvement of the stakeholders, by way of asking questions, seeking clarifications and offering suggestions. Here, an attempt was made to know from the participants, whether they were able to offer any suggestions in the grama sabha meetings with regard to preparation and implementation of micro plans (**See, Annexe F**).

Unlike simple attendance of the respondents in the meeting, which was above 80 per cent, the actual participation of the respondents, seen in terms of giving suggestions, was not very significant. However, 61.58 per cent of the respondents were able to give suggestions for preparing and implementing activities listed under the micro plan. Suggestions were offered mainly concerning construction of water harvesting structures like cattle ponds, agave plantation, plantation of local plant species and fodder cultivation. The respondents (38.42 per cent), who could not give any suggestions explained by stating that they could not participate actively either because of their ignorance about the project activities or that they had no technical knowledge or had nothing much to add to the discussion. However, they did support the suggestions made by others and hence, the decision-making could be called collective and unanimous.

Employment Generation

One of the important objectives of the project intervention is to provide wage employment to poor people, especially to landless farmers to prevent them from going outside their villages in search of their livelihood. This apart, employment opportunities were also provided to assist community efforts in developing systems to regenerate the land and water resources. Income from such employment had been found helpful in checking migration. The project provided employment opportunities to groups of different social categories and size class (**See, Annexe G**).

The watershed development projects, initiated by the sub-committees, were able to generate wage employment to the communities for a period of

11 to 20 days a month. In all the hamlets, about 84 per cent of the community members belonging to various social groups, specially scheduled caste groups were given assured employment for periods between 11-20 days a month. The landless respondents were found satisfied by wages paid for their days of work. In fact, they felt that since they were getting employment in the hamlet itself, they did not have to go out in search of work. As mentioned, both men and women were paid equal wages of Rs 40/- per day, which was found universal in all the hamlets. Notwithstanding this, the villagers demanded that the FES should raise the daily rate from Rs 40/- to Rs 70/- which was higher than the wages paid in other works and programmes.

Respondent's Views on the Benefits Accrued from the Project

The important achievements of the project were development and protection of common lands, construction of water harvesting structures, plantation activities, and employment generation. The cumulative effect of all these interventions was expected to result in the improvement of the living conditions of the poor people. It was in this context that we sought the views of the community members belonging to different caste groups and size classes on the outcome of the interventions (**See, Annexe H**).

It was interesting to note that almost all the respondents, irrespective of caste groups and size class, were positive in their views that the project activities had undoubtedly helped in re-vegetating wastelands, augmenting fodder requirement for livestock, groundwater recharging, drinking water facility for livestock through cattle ponds in addition to providing wage employment to poor and needy people, and thereby preventing migration. It was observed during our fieldwork that milch animals and small ruminants from neighboring villages also quenched their thirst from the cattle ponds. More importantly, due to conservation of water effected through water harvesting structures, there were instances of groundwater getting recharged in the nearby bore-wells and in a few open wells, further strengthening agricultural and horticultural activities. The FES, with the support of grama Panchayats and through active participation of sub-committees in implementation, was able to meet the subsistence needs of the community. The data presented in the above table justify the achievements made by the sub-committees in all the selected five hamlets.

Respondent's Opinion on the Quality of Works

The feed-back on the benefits received from the implementation of the FES projects indicated the undeniable role of the project interventions in improving the social and ecological systems in and around the hamlets under study. The community members, irrespective of caste groups or size class

they belonged had expressed their satisfaction over the benefits accrued to the community. Similar were the sentiments expressed by the respondents interviewed with regard to quality of works executed by the sub-committees (**See, Annexe I**).

All the interviewed respondents expressed satisfaction on the quality of works executed by the sub-committees, and while doing so they seemed to have compared with the works executed by their grama Panchayats, which, according to them, were not satisfactory. In fact, we could see some of the structures like houses, drainage and check-dams constructed by the Panchayats and line departments, in utter decay. One of the innovative aspects of the project implementation was that the works were executed with the involvement of the entire community, without depending on either middlemen or contractors. Consequently, there was sufficient scope for participation, transparency, and accountability in the implementation of project activities.

Respondent's Opinion on the Benefits Accrued to Their Hamlets from Grama Panchayat Programmes

The selected hamlets, coming as they were under the administrative control and management of different grama panchayats, were covered by a number of development programmes such as rural water supply, distribution of houses under various housing schemes, sanitation and more importantly schemes for the welfare of the socially disadvantaged groups such as SC/ST and women. With this in view, we elicited the reactions of respondents on the functioning of respective grama Panchayats, in terms of delivery of services to improve the rural infrastructure and also the living conditions of the poor (**See, Annexe J**).

The collected information has shown that, on an average, around 62 per cent of the respondents as having confirmed that their grama Panchayats were able to deliver the goods whereas remaining 28 per cent as having said no and were non committal. Those who benefited expressed that they benefited in terms of getting houses under Indira Awas Yojana, Ashraya, and Dr. Ambedkar Housing schemes. Those who did not benefit opined that there was lot of favoritism and biases based on caste and party considerations in the distribution of benefits and also in allocating works. Also, they were not interested in panchayat's works and activities. It is significant to note here that there was a widespread feeling in the minds of most people that Panchayats lacked resources, manpower, and skills to carry out mandated activities. More importantly, there was a general lack of faith among the people in the working of panchayats as their benefactors.

Respondent's Opinion in regard to involving Grama Panchayats in Watershed Activities

As discussed earlier, there were two schools of thought, one favouring the involvement of Panchayats and other against it. Similarly, there were differences of opinion among the respondents about involving Panchayats in the implementation of watershed development activities. However, there was consensus among the respondents, panchayat functionaries and members of sub-committees on the need for bringing about synergy among sub-committees, grama Panchayats and FES by establishing both organisational and functional linkages among them for the effective implementation of all rural development programmes, including watershed development programmes. If this were to materialise, then the entire process would have to be participative, transparent, and accountable in nature and practice. The interviewed respondents (**See, Annexe K**) were in favour of such an institutional arrangement and more than 76 per cent of our respondents were in favour of involving grama Panchayats in implementing watershed activities and, remaining 24 per cent, however, were not in favour of giving prime status to the Panchayats, as it might create party feuds, caste feuds, bias and give room for corruption .

2.B.9. Summing Up

The foregoing analysis of the institutional performance of sub-committees of grama panchayats in implementing watershed development programme revealed both positive and negative aspects which had larger implications seen especially in the context of theoretical and empirical issues raised in the first chapter of this report. They were as follows:

- A close look at the institutional performance of the sub-committees revealed that there were some improvements in the living conditions of the villagers. This was seen in terms of availability of employment opportunities which, in turn, halted the migration of the villagers (cf. Kerr *et al* 1998; Reddy *et al* 2004). In fact, the impact of the methods employed and results obtained by the projects could be seen from the demand from neighboring hamlets and villages to replicate the activities in those villages too.
- The active involvement of community members was visible in the various activities like selection of committee members, participation in the meetings and decision- making process. This process demonstrated the collective capabilities and collective action of the communities in the implementation of watershed activities (See, also, D'Silva and Pai 2003).

- The project's quest for sustainability was reflected in its efforts to work within the existing institutional structure, and to incorporate and also build upon local knowledge to ensure long -term sustainability.
- The decision to work through PRIs, which were legally established institutions, ensured the scope for sustainability, particularly in view of the project's efforts to strengthen the democratic and transparent working of these village level institutions.
- Collaborating closely with the grama panchayats, the FES had been able to create an atmosphere of mutual trust and cooperation; this had greatly enhanced the project's results.
- In ensuring project's success, the spearhead teams, which worked directly with the community, had played a very important role; the teams were able to ensure a reasonably good working relationship between the community, FES and grama Panchayats through their regular interactions and sharing of knowledge and skills.
- As a support measure, the FES had been able to devolve functions and responsibilities to the community managed committees with a view to making them sustainable over time and thereby create an atmosphere of mutual trust and cooperation. Thus, the sub-committees had been able to empower to make effective use of project resources and thereby to make the process all-inclusive, transparent, accountable, and responsive (See, for example, Farrington *et al* 1999; Baumann 1998).
- Notwithstanding the remarkable success in project implementation, facilitated through the involvement and support of Panchayats, there were some contentious issues cropping up between the Panchayats and the subcommittees, although they were not apparent and visible. Discussions with the Presidents, Vice-Presidents, and members of various grama Panchayats revealed that there still existed a feeling of alienation or incongruous relationship among the members of the sub-committees and the local panchayat members (Also, refer, Farrington *et al* 1999; Baumann 1998). This was mainly because of the fact that some of the members of the sub-committees often tended to ignore the importance and involvement of the local members in carrying out the project activities.
- The panchayat authorities also felt that the Panchayats should have a say in matters concerning the identification of project activities and allocation of funds to such activities. Some senior members of

the grama Panchayats and a few village elders felt that the Panchayats were treated as a kind of 'Post- Office' or as a 'Clearance or Delivery Point' for the FES.

- This raised an important point in that, although there were functional and institutional linkages between the sub-committees and the Panchayats, the latter did not have regulatory and disciplinary powers to monitor the activities of the former. This, in fact, had come in the way of establishing a good working relationship between these two grassroots institutions.
- Yet, these matters were seldom discussed openly! Since all the community members were involved in the project activities, the panchayat members, especially members representing the hamlets, who did not have much to offer except supporting the activities of the sub-committees .
- The experience of FES in this context was that though there were some initial differences and misunderstandings between them, the continuous interactions through regular meetings and open discussions in grama sabha meetings had largely cleared the doubts and conflict with regard to FES intervention in their villages.

However, a major issue had come to the fore especially after the introduction of Hariyali guidelines that seemed to favour the active participation of Panchayats in natural resource management, both in terms of plan formulation and plan implementation. Given the FES experience, which allowed for partial role to grama Panchayats in NRM related activities, it might be a difficult proposition to make a strong case favouring effective involvement of Panchayats in such activities. Notwithstanding this, some positive opinions had emerged among the practitioners in favour of providing a pivotal role to Panchayats, provided the respective state governments had the "political will" to take following policy measures:

1. Upgrade the skills and capabilities of Grama Panchayat members and local officials in NRM activities.
2. Grama Panchayats be provided with additional trained technical staff.
3. Panchayats be devolved with more political powers and independent planning functions.

Until such time the demands of the Panchayats were not met, Panchayats would necessarily have to play a secondary and coordinating role to sub-committees or any locally constituted or formed participatory

committees or organisations in implementing the development programmes. Also, in such a scenario convergence or synergy between these grassroots level organisations would be a distant reality. In Karnataka, the Government had transferred (based on activity mapping) some state sector schemes, which included minor irrigation, watershed development and management of tanks, to the grama Panchayats along with resources and staff. One should wait and see to what extent these new measures would be translated into reality.

CHAPTER III

ANDHRA PRADESH

The State of Andhra Pradesh is in the forefront in the implementation of watershed development programmes. So far, the State has initiated about 9,637 Watersheds under the new guidelines of 1995 (CoRD 2005). The main principle adopted in the guidelines lays special emphasis on the active mobilization and participation of the stakeholders in the programme including planning, implementation, and subsequent management. The guidelines have specified how watersheds were to be developed, using the Micro-Watershed [500ha] as the basic unit for treatment. Of the 23 Districts of AP, the Drought Prone Area Programme (DPAP) is being implemented in 17 districts. Commencing in the late 1990s, the approach has undergone gradual modification in the light of experience. As a result, the renewed programme envisaged a great opportunity for improving the productivity, profitability, and sustainability of dry farming areas through social mobilization process. Watershed development is seen as the only approach to ensure drought proofing and to mitigate the distress caused by frequent droughts.

In view of these expected benefits, a massive programme for development of all degraded lands in Andhra Pradesh in 10 years, was launched in 1997. The Action Plan for development covered wastelands, degraded lands, and degraded reserve forests. It envisaged development 10 million acres of land by the year 2007, at the rate of 1 million hectares a year. About 2.7 million hectares were covered under 5,472 watersheds till 2002, which was the largest such scheme in the whole country till date. The Watershed Development Committees and Vana Samrakshana Samities (VSS) have been executing the works as per the revised guidelines. The programmes under DPAP, Desert Development Programme (DDP)/Employment Assurance Scheme (EAS)/Integrated Watershed Development Programme (IWDP)/AP Hazard Mitigation, and VSS have been combined under watershed programmes. The approach, as it emerged, enabled identification of the wastelands, as superimposed by the village boundaries. Simultaneously, mobilization of the community into self-help-groups had commenced all over the State. 330 of the total blocks had provision for EAS funds. Another 94 blocks were DPAP blocks, and 16 (whole of Anantapur district) were DDP blocks. Accion Fraternal, an NGO, in Anantapur district, had been assigned the task of assessing the impact of watershed development programme on rural livelihood systems.

3.1. Status of PRIs in NRM

The PRIs reforms in AP have been limited to mere legislative amendments as mandated by the constitutional amendment. The structure and content of decentralisation entails that the influence of elected representatives like MLAs, MPs at district and sub-district level DNRM initiatives would be substantial, while the role of the PRIs would be nominal most of the time. As necessary fallout of attempted PRI reforms there has been a significant increase in departmental initiatives in natural resource management. While the strategy has been to build a state-community-partnerships to achieve decentralized NRM, the road-map of these systems seem to have ignored the PRIs as the vehicle for decentralisation. In the case of Andhra Pradesh, the reform initiatives in PRIs and the move towards state-community-partnerships for DNRM have failed to establish mutual linkages, and DNRM still remains primarily a scheme for employment generation and asset creation.

3.2. About Accion Fraterna (AF)

Accion Fraterna, a non-governmental organisation, established in 1982, as a subsidiary of the Rural Development Trust (RDT), has played a leading role in watershed development in Anantapur District of Andhra Pradesh, by taking up several programmes to strengthen watershed development.

The geographical area of Anantapur District is 47.28 lakh hectares; net sown area 10.63 lakh hectares; irrigated area 1.41 lakh hectares, and forest area 4.70 lakh hectares. The Population of the district was 39.00 lakhs, of which SC Population was 4.9 lakhs and ST Population 1.2 lakhs. Under the ecological programmes, the AF intended to take up participatory watershed development, collaboration with Government, policy advocacy, networking of voluntary organisations, capacity-building of the NGOs and Government agencies and action research and development. In addition, there was an Ecology programme under RDT, which was funded by FVF (Father Vincent Ferrer). The AF was working in 65 watershed villages consisting of 16,250 households and a total population of 81,250. AF had 120 full time personnel to look after the activities. EZE, ICCO, European Union, Government, and DFID were financing AF undertake watershed development in the district.

Objectives of Accion Fraterna

The basic objective of the organisation is to make integrated village development through watershed activities, by bringing about sustainable and equitable use of natural resources, freedom from poverty and drought, social

and gender equity, democracy, peace, co-operation and collective action in the matters of village development. The core activities of AF may be summed up as follows:

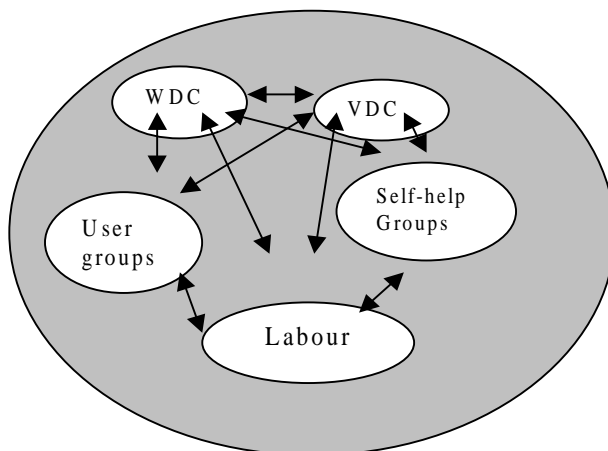
- Combating desertification and improving the carrying capacity of the land.
- Diversifying agricultural production and improving resistance to drought.
- Participatory leadership and institutional development at the village level.
- Human and organisational resources development for government agencies in WSD.
- Policy advocacy and lobby work with government and NGO networking.
- Action research and development.

AF has also taken several steps to diversify agricultural production in the area through the promotion of horticulture (tree cropping), diary development (facilitating credit support for this purpose), fodder development, and veterinary care services. It has also been encouraging the use of non-conventional energy (Biogas and smokeless *chullas*). It is also supporting the up-gradation of local cattle breeds into high yielding varieties through artificial insemination (AI).

Besides these activities, AF has also been engaged in institutional development at the village in order to make these programmes self-sustained in the future too. Its emphasis on the constitution of Village Based Organisations (VBO's) and facilitating their effective functioning for participatory watershed development and its sustainability were both innovative and unique. AF has also been taking care of the gender aspects and also giving stress on due representation for all sections of the society and particularly disadvantageous groups while forming collectives to implement the watershed programmes.

Institutional Development and Participatory Approach Adopted by AF in WSDP

AF adopted the following participatory approach of the inclusion of the institutions that matter in the implementation of WSDP (See, Chart 4).

Chart 4: Linkages among Village Institutions

- Grama Sabha- as general assembly of the village - and as an important Village Based Organisation responsible for general policy direction and decisions of social binding.
- All other institutions to be answerable and accountable to the Grama Sabha.
- Watershed Development Committee (WDC) to work as an executive body of the Grama Sabha.
- Village Development Committee (VDC) as a forum for collective action and synergy for integrated village development.
- User Groups for each activity.
- Women SHGs to focus on basic services and alternative income opportunities.
- Labour group to enhance collective bargaining and avail government anti-poverty programmes.

Social Audit, Transparency, and Accountability Mechanisms adopted by the AF in WSDP:

- Funds are transferred to the WDC account, jointly operated.
- All payments are made by cheques after approval by the WDC.
- All details are made available in watershed office and displayed prominently.
- Details of income- expenditure to be displayed at intervals of six months at a prominent and central place in the village.

- A watershed map with all the activities is drawn and displayed at a prominent and central place in a village.
- Every family to be given a detailed half yearly report at least three days before the grama sabha.
- Anybody in the village can verify the books of accounts at any time.

Criteria for and Process Adopted in the Selection of a Watershed Village.

The criteria followed for the selection of villages for watershed programme under the Accion Fraterna (Rural Development Trust, Anantapur), included biophysical indicators in conjunction with some social indicators such as literacy, land-lessness, and access to drinking water. The deciding factor was the urgency with which watershed development was needed in a given village. The biophysical indicators (rainfall, sediment yield, vegetation, groundwater level, etc.) were taken from the Andhra Pradesh Remote Sensing Agency's data.

At the implementation stage of participatory watershed development programmes, the 'success factors' in the village became critically important and the choice of village was necessarily based on the 'success criteria' in conjunction with the biophysical needs of the village. Past experience suggested that unity and collective leadership in a village were crucial for an effective watershed development. A village's need for watershed development apart, an important criterion was the willingness of the people to take initiative and leadership in a participatory approach.

In the first-generation phase of a participatory watershed development programmes, villages needed to be identified and selected where a participatory approach could be successfully demonstrated. This would have a motivating effect on neighbouring villages and create demand for replication of the programme in neighbouring villages. This had the potential to foster social equity and harmony in place of factionalism and bloodshed in conflict-ridden villages and might see their transformation from 'bloodshed' to 'watershed' development. Thus, watershed development needed to be turned into a social movement. The operationalisation of a fully participatory approach for watershed development in 'socially feasible' villages could slowly reverse the conventional 'top-down' approach of the government, and even other government development programme could benefit by emulation.

Pre-conditions for Selecting a Village

Although remote sensing data (focusing physical parameters of soil, water, vegetation) on a village was generally taken into account while selecting a village for WSD programme, initiative in this regard needed to come from the village showing interest in implementing this programme in the village. If a Grama Sabha convened by the grama panchayat or by informal leaders, with at least 2/3rd of the voters present and unanimously resolved to execute the programmes, then the village might formally request the RDT to include it in the said programmes. Willingness of the villagers to actively participate and contribute wherever necessary (10% or 5% of the cost as the case might be), was also one of the important criteria for the selection. The villagers needed to follow the watershed guidelines in regard to the necessary institutional arrangements for the purpose of implementation (i.e., formation of watershed association, watershed committee, user groups, and self-help groups) and monitoring of the programmes.

Provisions for De-selection and Punitive Action

The process of selecting a village for watershed development was essentially a community mobilization process of involving, facilitating, organizing, enabling and empowering the whole village. Many villages were not in a position to self-motivate and participate actively, but would do so gradually, especially if they could visit successful models in neighboring villages. But, for any reason, if a village failed to satisfy these conditions or any case of misappropriation of finances was noticed at any stage of the programmes, then the village stood the risk of de-selection from the WSD Programme and punitive (criminal prosecution) action against it.

Pre- Conditions for Selecting Watershed Villages by RDT/AF

- At least 75 per cent of the land should follow non-expensive agricultural methods such as ploughing across the slope, use of manures as per soil testing reports, seed treatment, maintain recommended population of plants, sowing across the slope, inter-cropping and dead furrow,
- At least 50 per cent of the farmers, who got benefited under bunding programmes, should take up crop rotation, at least in one acre of land, each year,
- At least 75 per cent of the households in the watershed villages should take up horticulture. Horticulture should be taken up in the name of either girl children of the family or female head (wife) in the household. To the extent possible, the villagers should support

the landless farmers in taking up horticulture by granting them some village land,

- Tree-planting should be taken up in villages where there were hills or hillocks. At least 30 per cent survival rate should be ensured for planted saplings,
- At least 90 per cent of the farmers who had taken up horticulture, should take up vermiculture/ and use vermi compost.
- Groundnut cropping should be taken up in bunded lands, and to protect the crop from root pest, Jowar and Bajra should be sown between the rows (inter- cropping).
- Combined efforts should be made by the villagers to eradicate the weed plant “Vayyaribhamalu” (alternate host parthenium).
- Social restrictions should be put on cutting and felling of trees. Permission of Village Development Committee should be insisted for cutting trees under inevitable circumstances. And, as a compensatory method, 5 new trees should be planted per each tree cut.
- Efforts should be taken for the successful maintenance of contour bunds, water bodies, survival of plants, bio-gas units, kitchen gardens etc. “Sri” (Paddy variety) method should be practiced and followed in at least 25 Per cent of the land in case of paddy cultivation .
- Dairy farming should be taken up as an activity to supplement agriculture. Farmers having irrigation facilities should take up pasture development and improve the dairy.
- The villagers should also abide by certain programme like Shramadan (Voluntary labour), family planning, 100 percent Immunization/ Vaccinations, prevention of wastage of water and ensuring safe drinking water, maximum enrollment of children in primary schools (at least 90% children) and to prevent drop-out till primary schooling was over.
- Moreover, the villagers were expected to discourage the sale and consumption of alcoholic beverages in the village, take proper care of the orphans (providing food, shelter, etc.), and maintain better sanitary condition in the village.

Village Institutions

The success of any programme mainly depended on the efficacy of the institutional mechanism, mandated to implement the programmes. Therefore, the selection criteria gave more weightage to the mechanisms of institutional arrangement (unanimous elections should be conducted for

the selection of members in village institutions like Grama Panchayat, Vidya Committee, Water Users Association, V.S.S., Watershed Development Committee, Village Development Committee, Gramaakya Sangham, Mother's Committee etc.) and on the level of efficacy of these intuitions to ensure participation of the various stakeholders.

Poverty/Caste/ Gender Discrimination

Since the success of WSDP critically hinged on participatory approach, the selection criteria laid stress on the participation of all sections of the society, with particular stress on gender-equity (all committees should have minimum of 40% women membership with provision for equal wages for equal work). It also forbade any discriminatory treatment towards any section of the society (pointedly with respect to drawing of water from public places and denial of entry to lower caste people into places of worship, as also replication of dual service systems as in Elakuntla watershed).

3.3. Process of Watershed Implementation and Institutional Development in Sample Villages I and II

In the following paragraphs, the basic characteristic of the Elakuntla and Bhanukota watershed villages, the process of watershed implementation in the context of various institutional arrangements and the outcomes in the domain of institutional, ecological, economic and social arenas have been discussed.

Socio- Economic Profile of the Sample Villages

Elakuntla and Bhanukota Villages: Elakuntla watershed village is situated at about 5 Kms from Kanaganapalli Mandal on Dharmavaram - Kalyandurg Road and forms part of the Grama Panchayat village located in Kanganapalli Mandal of Anantapur District. It falls under Penukonda Assembly segment, and is at a distance of 60 kms from Penukonda town. It comes under Hindupur Parliamentary constituency and is at a distance of 55 Kms from Anantapur town. The second sample village, namely, Bhanukota watershed is about 16 kms from Kanaganapalli Mandal on Dharmavaram - Kalyandurg Road. This village forms part of the Grama Panchayat village located in Kanganapalli Mandal of Anantapur District. It falls also under Penukonda Assembly Constituency, and is at a distance of 65 kms from Penukonda town. It also comes under Hindupur Parliamentary Constituency. It is 50 kms from Anantapur town, which is the district headquarters.

Table 4: Socio-Economic Characteristics of the Sample Villages Elakuntla and Bhanukota.

Sl. No.	Particulars	Village I (Elakuntla)	Village II (Bhanukota)
1.	Population:	1,053	1,595
	Males	532	826
	Females	521	769
2.	Social categories		
	SC	12 (6.9)	104 (31)
	ST	04 (2.3)	03 (0.9)
	BC	104 (59.8)	205 (61.2)
	OC	54 (31.0)	23 (6.9)
3.	Total no. of households	174	335
4.	Size class/economic class		
	MF	05 (2.9)	64(19)
	SF	56 (32.2)	155 (46.3)
	Med & LF	111 (63.8)	115 (34.4)
	Landless	02 (1.1)	01 (0.3)
5.	Cultivated land (in acres)	2,269 (100.0)	2,787.84 (100.0)
	Irrigated	235 (10.4)	307.20 (11)
	Un-irrigated	2,034 (89.6)	2,480.64(89)
6.	Livestock population (in nos.)	5,674 (100.0)	1,370 (100.0)
	Bullocks	60 (1.1)	180 (13.1)
	Buffaloes	44 (0.8)	90 (6.6)
	Cows	28 (0.5)	200 (14.6)
	Sheep	5520 (97.2)	700 (51.1)
	Goats	22 (0.4)	200 (14.6)

Note: Figures in parentheses represent percentages.

The comparison between Elakuntla and Bhanukota villages in terms of socio- economic profile shows that Bhanukota was larger in terms of total population and number of respondents compared to Elakuntla. Both the villages had a high backward castes population. Banukota village had a higher percentage of SC, ST population than Elakuntla village. In Elakuntla village, medium and large farmers dominated, while in Bhanukunta small farmers were more. While Bhanukunta was big in terms of total population, the extent of cultivatable land available in this village was less than that of Elakuntla village where the extent of cultivable land available in higher than in Banukunta village. However, in terms of irrigation facilities the situation was equal in both the villages. Both the villages were largely rainfed, i.e.,

89.6 per cent of Elakuntla and 89 per cent of Banukunta without irrigation. The livestock population of Elakuntla was more than that of Bhanukunta village. However, we found that Bhanukota village had higher number of large ruminants, while in Elakunta village small ruminants were more in number. The larger livestock population in Elakunta village was mainly attributed to the larger share of sheep in the total livestock population.

Background of the Elakuntla Watershed Implementation Process

Prior to the introduction of Watershed programmes, people from Reddy caste (a forward community) and Boya caste (a BC community) used to migrate to irrigated tracks in search of agriculture - based labour and rope making activities using agave plants. These groups moved from place to place depending upon the availability of labour due to frequent onset of severe drought in this area that created conditions hostile to farming. With regard to infrastructural facilities and availability of other services in this village, it bore the characteristics of a remote village. Elakuntla is a panchayat village coming under Kanaganapalli mandal; the village has bus facility; and there is a metal road from Kanaganapalli to this village, and the village has basic infrastructure to create awareness and capacity-building through institutional mechanisms. The other facilities available in the village are PACS/Single Window, Bank, Weekly market (on Friday), PHC, Veterinary Hospital, Agricultural Department, Agricultural Input Shops, Upper Primary and High School, whereas Regulated Market yard and Colleges are available at Dharmavaram town.

Reasons for selecting this Village as a Watershed Village

- Severe drought conditions in the village,
- The geographical conditions of the village,
- Lack of income generation activities/alternative employment opportunities in the village resulting in severe deprivation problems to the people, particularly to the labour community,
- Abject poverty of labour class
- Migration of people in search of labour work,
- Unhygienic conditions in the village,
- Persistent appeals from village Sarpanch to adopt the village as watershed village,
- Active participation of all the villagers witnessed during the two awareness generation meetings organized by the RDT on watershed concept, and their written request to select their village as watershed village, along with an assurance that they would extend their full cooperation in this work.

Castor, groundnut, redgram, cowpea, greengram, korra and sesmum were grown under rain-fed conditions and paddy, groundnut and sunflower were grown under irrigated conditions. In addition, papaya cultivation had been taken up in about 15 acres whenever groundwater was available.

Process of Watershed Implementation:

Due to near-drought conditions, the socio-economic conditions of Elakuntla village remained poor during 1996 to 1998, which adversely affected the economic conditions of the villagers, and resulted in large-scale migration. Meanwhile, the villagers appealed to the RDT to include their village in WSDP scheme. Before implementing WSDP in the village, the RDT had organised a motivation meeting to create awareness among the villagers about RDT, its aims and objectives, and also about the watershed concept. Various activities undertaken by the watershed committee have been discussed below which included institutional, ecological and social domains.

3.4. Institutional Arrangements

1) Watershed Committee: As per the pre-announcement, a massive meeting was organized which was attended by all the villagers. During this meeting, the villagers unanimously selected Watershed Committee and Advisory Committee members. These committees also arranged a watershed Grama Sabha, comprising of 11 members, which was to meet twice each month, i.e., on 6th and 22nd in the watershed office, and review the works taken up during that fortnight, and discuss about the works done, preparation of bills etc. The members of the Village Development Committee and 3 to 4 active persons from the village attended the meeting. Thus, a plan of action for a fortnight was drawn up twice every month and constructive decisions taken. In case of any problems, the matter was referred to the VDC consisting of seven males and five females for finding a solution. The chairman of the watershed committee would be male and as regards caste composition, six BC members including the chairperson, three members from other caste communities and remaining two from SC/ST communities made the total membership. The committee comprised of various occupational groups, i.e., farmers, artisans, labourers etc., with representation to SC/STs and RDT's Community Development Committee (CDC-RDT).

2) Village Development Committee: This committee was formed by selecting active members from various institutions; the members of this committee met at least once in every month in the watershed office, and discussed about the plans and review of works. A regular monthly meeting of VDC was organized on the 11th of every month at 8:00 p.m. in the

watershed office. Active members from various village institutions such as members of Village Education Committee, Grama Panchayat, DWCRA etc. were to be members of this committee including one female and eight male members. Representatives of various User Groups (UGs), other village institutions such as village elites, farmer's groups, SHGs Village Organisation Executive Committee (VO), Chief Minister's Empowerment of Youth group (CMEY), Artisan, Village Education Committee (VEC) and Watershed Development Committee (WDC) together made up the VCD.

3) Working of V.O. Executive Committee: The SHGs were formed to promote active enrollment of villagers and federated into VOs, whose executive committee consisted of 11 women members, and this committee represented all thrift and credit groups of the village. This group was formed by taking two active persons from every group in the village. They met in the watershed office on the 9th of every month and discussed various issues relating to each group, and planned activities for the following month.

4) Vidya Committee (Village Education Committee): This committee discussed with the VDC about all the issues regarding the village school(s), and found solutions to the issues.

5) User Groups: User groups were formed Activity-wise and year-wise basis. These groups were initially formed to initiate works in their fields. They paid their contributions in advance, and got the survey work done, followed by involving themselves in the execution of works, preparation of bills etc. In the year 2004, both men and women beneficiaries were involved in the execution and supervision of works.

6) Labour Groups: A majority of the population in this village were dependent on wage labour and prior to taking up of any work; all the labourers in the village met and formed themselves into a group of 15 to 20 members. Both men and women were paid equal wages for work and a lot of work had been done for gender mainstreaming among the labour force. Commencing 2004, women were made as the main leaders of labour groups, and were assigned the tasks of preparation of bills, payments, etc.

7) Resource Centre (Watershed Office)

All the information related to the village, and watershed activities were maintained in the office in the form of charts and graphs. Care was taken to ensure that detailed information was kept/filed in this office along with visuals (photographs etc.).

1. Every evening, the farmers met the local STO in the watershed office and discussed about various issues related to the watershed.

All the meetings, like general watershed committee meetings, training, and activities like preparation of bills for the labour and disbursement of bills etc., were conducted from this office.

2. Two separate accounts were opened in the Bank. One called Village Development Account, and the other Watershed Account. The people's membership fees and their contributions were remitted into these accounts (An amount of Rs 180,000/- was deposited in 'Grama Nidhi' (WDF) and earmarked for post- WSD phase).
3. Thus, once in every six months, a watershed grama sabha was organized and discussions on issues were held, and decisions were taken for the welfare of the village. Care was taken to ensure that all the decisions taken and activities planned were for a period of six months, and within that time, the same was discussed and evaluated in the Grama sabha.
4. Relationship of AF/RDT with the grama panchayat was found to be cordial since G.P president would be an active member of the VDC. Interface between watershed Committee and panchayat showed that there were no conflicts between these two.
5. Capacity-building was undertaken for the WDC, VDC, V.O, and SHGs Members. Areas covered were agriculture, horticulture, and SHG functions.
6. High social capital levels were observed on account of large number of village institutions.
7. Working of the WDC was found satisfactory in terms of number of community meetings held (64 meetings during the last five years), participation of SC/ST and women in the meetings, number of WSD meetings organized (a total 127), conflicting issues reported and resolved (23) etc.
8. In terms of investment made, RS 2,463, 000/- were spent on various activities.

Ecological/Economic Impact

1) As farming was dependent on monsoon, and due to failure of monsoons, most of the farmers were not able to take up agriculture before the introduction of watershed activities in this village. But the situation changed for good after the implementation of watershed activities, about five years ago. The farmers have now taken up planting Mango, Sapota, and Tamarind in their lands. They took all steps to protect these plants for two to three initial years so that the coming years would bring income to them. With the increase in water table due to soil and moisture conservation activities carried

out, some of the farmers had even dug bore wells and brought about over 40 per cent of the land under irrigation. Now, they are able to grow commercial crops thereby creating employment opportunities to the labourers too. The water table has gone up (particularly in the roadside bores). Almost all the lands situated in the eastern and western sides of the village have been brought under irrigation and have been yielding good crops.

2) Introduction of watershed activities boosted dry land horticulture; it has now covered over 161 acres with different trees like Mango, Sapota and Tamarind. Irrigated horticulture has also been taken up in over 40 acres consisting of Mango and Sapota in 25 acres and papaya in the remaining areas. A few farmers, who had taken up plantation around 1999-2000, have already started getting yields from some well-grown plants.

3) Under soil and moisture conservation side, works like formation of contour bunds, pebble bunds, stone checks were taken up and completed in an area of 440.56 ha. creating a total of 45,833 mandays of employment. In Rallapatti area, on the western side of the village, about 170 ha of land belonging to several farmers had been left un-ploughed and barren as the land was covered with boulders and wild growth. However, now, by taking up land clearance and soil and moisture conservation works, this land has been brought under plough to the benefit of the farmers. In addition, adequate wage -labour work was also created which benefited the labourers. Thus, soil and moisture conservation works were proving very useful to both the farmers and to wage labourers in the village.

4) To improve the groundwater level, three check-dams and one check wall were constructed in the fields owned by about 25 farmers. This included a check-dam across a stream to provide irrigation facilities. This check-dam has helped the shepherds (for their animals) and Dhobis (for washing cloths) by providing water-resource.

5) As a part of plantation programmes, planting had been taken up for afforestation of hill tops. Avenue plantation was taken up for a length of about one-kilometer in addition to 350 tamarind saplings planted across a length of 1 kilometer under '*Chinta to Nischinta programmes*'.

6) Three biogas plants were constructed in the village which utilised the available livestock dung and open space of the respondents. Mobile smokeless *Chullas* were distributed to 36 village families. These *chullas* were supplied on the basis of subsidy according to the social category.

7) Under sanitation programmes, 41 sanitary latrines were constructed through RDT/AF support while another 69 families had benefited under the

government programme. In addition, RDT provided additional funds for improving the quality of the programme on the basis of the social category of beneficiaries.

8) Under Income Generation Programmes, 150 Giriraja Birds (a variety of poultry) were supplied to the beneficiaries at Rs 90/- per pair. These birds weigh between 5 and 6 Kgs. at the peak stage of their growth. About 120 beneficiaries were supplied with 250 packets of kitchen garden seeds to take up gardening in their backyards. Under backyard horticulture, 150 families were supplied with 310 coconut- saplings, Papaya, Curry Leaf, and other species of saplings. These plants were supplied on the basis of subsidy given according to the social category.

9) As a part of development of “other income generation resources”, the villagers had found dairy farming as the most appropriate in the village. Due to the existence of ‘Pandameru Vanka’, hills and hillocks around, fodder and water were available for the livestock. The villagers have now come up with a plan to seek bank loans for dairy farming. With financial assistance from Banks, 23 respondents were now eking out their livelihood through dairying. The farmers had also taken up raising Co-1 variety grass as fodder for cattle. Now, about 100 liters of milk per day are now produced and supplied from this village. However, the beneficiaries were not satisfied with the price they were getting for the milk.

Development of Women

Like men, the women of the village were also dependent on farm labour. Continuous failure of monsoon and resultant scarcity of wage employment was prompting about 30 to 40 families to migrate to different villages every year. The condition of women during migration period used to be very pathetic. The worst causality of migration was children’s education. The unhealthy atmosphere in the village caused by groupism and resultant unruly incidents among different groups in the village also had prompted a few families to migrate to nearby towns like Anantapur, Dharmavaram, Garladinne etc.

In the year 1992-93, about 15 women were motivated to form themselves into a group by the gramaadeepika. This group was used to pool its meager savings to organize meetings. However, later, this group was sanctioned a revolving fund using of which the women groups had taken up sheep rearing. In 1993-94, another 30 women formed into two women’s groups. Later, in 1995, RDT implemented a Women Development Programme in this village and a Women Sangham was also formed. During

the year 1996-97, two more women groups were formed under DRDA. Currently, five women groups were functioning in the village. In 1999, RDT's watershed development programme was implemented in this village, and VDC and a Watershed Committee were formed under which 40 per cent of enrolment was of women. Due representation was given to all castes and communities in the committees and equal opportunities were given to both men and women in decision- making processes.

During 2002 and 2003, under watershed programme, three more women groups were formed as a part of PoP (Poorest of the Poor) activity. By that time, the number of women groups had risen to 11 and the total women involved 165. As a result of paying equal wages to both men and women, many women were attracted to watershed works.

In the year 2003, a Village Organisation (V.O) was formed under the guidance of AF/RDT staff which had in it representation of all groups in the village. Since then, they have been conducting monthly meetings in the watershed office on the 9th of every month to discuss about various activities that were taken-up under watershed programme in the village. The President of the V.O said that that they have been concentrating on each and every activity in the village and participate in it. Citing an example, she said that they had participated (all the SHGs) in a Shramadanam activity on 5/5/2004 in association with the VDC.

Social

1) Before the WSDP was implemented, there had been high incidence of out-migration. Now, wage-based beneficiaries under watershed programme said that migration had completely stopped due to the implementation of watershed programmes. They said that they were getting better compensation (wages) for their work, and there was no discrimination between men and women in the payment of wages. According to them, as a result of this programmes, they managed to save money even during drought seasons (many saved in SHGs, Post office, and Banks). This had a positive impact on the schooling status of children in the village.

2) Minimum Level of Subsistence (MLS) had been achieved by a majority of the poor who were now in a position to come out of their poor economic conditions and, all the poor people said that the programme made social impact, and contributed to social capital under watershed programmes. They witnessed the attendance of all sections of people at the Grama sabha meeting as evidence of the positive change that had been brought about.

3) In addition, local elections were no more marred by myriad rivalries. This scenario had undergone a total transformation after the implementation of WSDP, as was evident from the peaceful co-existence of various communities in the village.

3.5. Sample Village-II: Bhanukota Watershed Village

Background of the Bhanukota Watershed Implementation Process
The village had a history of conflicts, both factional as well as by the involvement of radical elements in village activities. Yadavas and Boya communities once dominated this village, and during famine times bad elements used to indulge in theft and sand smuggling for their livelihood. In 1976, as a fall out of group disputes, the people belonging to Boya community (with the support of Reddy community) killed a person of Yadava community. In a retaliatory attack in 1979, a person of Reddy community was also killed. This killing and retaliations spread tensions in the village, and a few of the culprits were continuing as professional killers. During 1982-83, a meeting was held by Radical Groups (Naxals), in which the lands of landlords were re-distributed to landless people in the village. However, none of the villagers had joined hands with radical groups, but took to goondaism instead. In due course of time, this village earned notoriety as a 'trouble village'. Many of the villagers were booked for various criminal cases. In contrast, people from Harijan Community were not involved in any illegal activities. And in recognition, the Rural Development Trust (RDT), Anantapur, introduced Education and Sponsorship programme (under General Activities of the organisation) in this village and introduced various other general programme run by the organisation.

Infrastructure and Other Public Facilities

Following were the diverse infrastructure and other facilities available in the village: Being a centrally located village to other comparatively bigger villages, the villagers had to travel to various places for different requirements. Banking facility (Anantha Gramamena Bank) and PHC were available at Thogarakunta at a distance of eight kms. from the village. Veterinary hospital was situated at Maddelacheruvu village, which was again about eight kms from Bhanukota village. Similarly, the nearest shandy was at Nuthimadugu village, which was about eight kms from the village. Thus, located, as it was at a distance to nearby big villages people necessarily had to travel some distance to satisfy their normal needs. The village fell under the Milk Route and it had a milk collection centre. Anantapur town was the nearest cattle fair to the village.

About 296 acres of land in the village was cultivated under 60 irrigation bores/wells owned by 82 families. Only 11 per cent of the total average land was under irrigation. There were six bores fitted with hand pumps in the village which was insufficient to give protected water supply. Sufficient drinking water sources were reportedly available which remained untapped till date.

The occupational composition of the village comprised 155 small farmers (46.3%), 109 medium farmers (32.05%), 64 marginal farmers (19%), six large farmers (1.8%) and one landless household (0.3%). The livestock composition of the village consisted of buffaloes (90), cows (200), bullocks (180), goats (200) and sheep (700). The major livelihood activities in the village were agriculture, agricultural related wage labour, Watershed based wage labour, VSS based wage labour works, panchayat works (FFWP works viz., Road laying, CC road works etc.), construction based wage labour (Tractor, Masonry), carpentry, tailoring, dairying (40 households), sheep rearing (five households), goat rearing (two households), cattle rearing activity (four households) etc.

Land Use Pattern

Bhanukota-A watershed area was about 48.6 per cent of the total geographical area, of which 38.2 per cent was under cultivation and only four per cent of it was irrigated. In Bhanukota-B, the total watershed area was about 51.4 per of the geographical area of which 45 per cent was under cultivation, total irrigated area being about five per cent of the cultivated land. The main source of irrigation in this watershed village was groundwater (well/bore well). In rain fed areas, groundnut, red gram, sunflower, castor, cowpea, green gram, korra, horse gram, and sesame were cultivated and in irrigated areas, papaya, paddy, groundnut, sunflower ragi, jower, and green grama were grown.

This village got water from Perur Dam for irrigated agriculture. However, due to severe drought conditions, over the years, there has not been water supply through this source for the past three years. An area of 300 acres could be irrigated, if water supply from this dam was ensured.

Entry of RDT

Various RDT teams used to visit the village in connection with the above cited activities. In 1999, a team from the Ecology Department visited the village and explained to the villagers about the importance of watershed activities, but it was reported that the people did not show any interest. Subsequently, panchayat elections were held in the village and TDP candidates

won the election. Similarly, MPTC elections took place without any problem. All these seemed to have brought about some change in the people's attitude and way of thinking.

3.6. Process of Watershed Development Programme Implementation

Vepakunta is a small village, situated adjacent to Bhanukota, where watershed programme was under execution. A Number of developmental activities was also taken up in Vepakunta village and the residents of the village were enjoying all the benefits from WSDP for long. The people of Bhanukota, had a ringside view of the way and the villagers in Vepakunta had been harnessing natural resources through watershed development. People of Bhanukota who discussed the matter with the village leaders, who, in turn, represented the same to RDT/AF, requested them to implement watershed programme in their village. Subsequently, again, all the villagers along with the local leaders submitted to RDT/AF's Mamillapalli Field Office a request to take up watershed activities in Bhanukota. In response, the Area Team Leader, and Field Supervisor along with other staff members made several visits to the village for spot-study. Pursuant to these visits, the organisation decided to implement watershed programme under the APRLP scheme in this village.

At this juncture, the field staff and professional staff of RDT/AF, along with the local villagers conducted a geographical survey area and opined that funds received for a single watershed would not be sufficient to meet the developmental needs of this village. Hence, they divided this into two watersheds as "Bhanukota - A" and "Bhanukota - B". This proposal was accepted by the District Collector, who sanctioned two watersheds to this village. Funding for this programme was made through DWMA (District Water Management Agency), with support from APRLP (Andhra Pradesh Rural Livelihoods Programmes) who gave finance to the newly formed watersheds in the state. The Project Implementing Agency (PIA) of this programme was Accion Fraterna.

WDC and VDC and the Team Composition

There were 21 SHGs/ DICRA groups, and two watershed committees in the village. It had also Community School, Disabled group, VSS, Upper Primary School, VEC, G.P, UG's, VO and Community Development Committee (CDC-RDT). These initiatives were being provided with the initiative of RDT.

The SHGs were formed to ensure active enrolment of the people. These SHGs had been federated into a Village Organisation whose Executive Committee consisted of 12 women members. This committee represented all thrift and credit groups of the village. A Village Development Committee (VDC) was also formed in this watershed village. In deference to instructions from the District Collector, prominence was being given to Dry land Horticulture, and renovation of traditional water bodies (viz., old tanks, tanks, kuntas etc.).

People's Perceptions of the WSDP Works/Activities in the Study Village

People's perceptions on watershed activities including its impact were collected through FGD and members of Watershed Committees, VDC, PRI/Grama Panchayat, Community Based Organisations (CBOs), Village Institutions and through personal interviews with the direct and indirect stakeholders. Information so collected pertained to issues like formation of committee, organizing meetings, implementation of works, advantages of the programme and, problems faced, suggestions etc.

Institutional Arrangements for the Implementation of WSDP

1) As per the conditions as also regulations, two watershed committees and one VDC were selected unanimously and without bickering. Due representation was given to people of all castes, communities and also both the sexes. The watershed committee in Bhanukota - A consisted of an executive committee with 12 members (seven males and five females) and with a chairperson to head the committee. The Chairman of the watershed committee in Bhanukota -A village belonged to BC category. The caste composition of the committee was one OC, nine BCs, and two SC members. In Bhanukota-B watershed Executive Committee also, there were 12 members (five females and seven males). The president of the watershed committee belonged to BC community. The caste composition of this watershed committee was that nine members belonged to BC including Chairperson and the remaining three to SC community.

2) The VDC comprised of representatives from various user groups, such as labour groups, farmer's groups and village Sarpanch (GP), Mandal Parishad Territorial Constituency (MPTC) Member, Village Education Committee (VEC), etc. Interface between WDC and GP was achieved by the VDC in which both former sarpanch and present sarpanch were made active members. Prior to the setting up of VDC not much interaction took place between these two institutions.

3) Twice a year, i.e., in the months of March and September, Grama sabhas were organized in the village on a pre-scheduled date. During these Grama sabhas, information on activities taken up and completed, approval obtained from the entire village on works to be taken up in the subsequent half year were discussed and finalised. These meetings also took up the detailed plan of activities. The progress report of the previous half-year was distributed to all the families in the village as also to the Sarpanch, village Secretary, MPDO, MRO, RDO, Project Directors of DWMA, DRDA, District Collector, local MLA and MP, MPTC, ZPTC, MPP etc. All the works were taken up through user groups under the guidance of concerned committees: Bunding user groups, horticulture user groups, rain- water harvesting structures user groups, labour groups etc. Every year shramadanam programme was also organized. Minor problems were settled through discussions in the VDC. Meetings, Trainings, and disbursement of bills were done in the watershed office (Resource Centre). Various developmental programmes were discussed and problems were solved in the premises of the Resource Centre Office itself.

4) In terms of investment made, Rs 1,078,500/- were spent during the last three years (2001-02 to 2003-04).

5) During this three year period, ten community level meetings and 45 WDC meetings were held, in which conflicts were resolved and also committee activities integrated with line departments and Panchayats.

Ecological/Economic

1) Pebble bunding was taken up in an area of 83.88 ha. under Food for Work Programme (drought relief programmes) and under IPM (Integrated Pest Management), chemicals were supplied to spray an area of 50 acres each in both Watershed A and B for groundnut seed treatment, leaf spot disease control, budnecrosis virus control and Red Hairy Caterpillar control.

2) Under the watershed development programmes, renovation of 'Pullappakunta' was undertaken which resulted in farmers getting increased water yield from their bores due to increased groundwater level. This ultimately increased agricultural productivity under bore irrigation.

3) Tamarind plantation was taken up in 18 acres of land under "Chinta to Nischinta" programmes. The villagers welcomed this activity for common asset formation. The income earned from these common assets could be used for future development of the village.

4) The farmers were discouraged about the usage of chemical manures

and encouraged use of farmyard manure and bio-fertilizers. Further, the farmers were asked, while conducting soil tests, to use only required components of fertilizers in order to reduce unnecessary expenditure, and wastage of manures. They were also told to use bio-fertilizers, Super, Zipsum etc., that were supplied at subsidized costs.

5) 20 farmers had taken up coconut plantation (200 plants) under backyard horticulture in order to get additional income, to reduce the losses incurred from the main crops.

6) Under WSDP, people were supplied fodder seeds free of cost or at subsidized rates. As a result of the promotion of fodder cultivation and sowing of grass seeds on earthen bunds etc. the intensity of the problem of fodder shortage had come down to a certain extent.

7) A total of 12,552 mandays were generated during the last three years.

8) Under the project, the farmers were supplied with 'Eenati Gorrus' (modern plough), and advised to take up cultivation across the slopes, and sowing of red gram, green gram, horse gram etc., as mixed crops. The farmers were advised to make use of three carts more of farmyard manure (cattle dung etc.) per acre as also to take up seed treatment and usage of correct quantity of seeds per acre (IPM, INM, IDM etc.). To promote an alternative to groundnut crop, RDT/AF encouraged sowing sunflower, horse gram, korra etc., which had reduced the intensity of losses during this cropping season.

Social

Under the WSD Programmes, RDT/AF had taken-up many works like drought proofing, renovation of traditional water bodies, pebble bunding etc., which were basically employment generating schemes. RDT/AF had also encouraged the farmers to adopt modern agricultural methods, which were more productive than the traditional methods of agriculture.

1) Pebble clearance work was done in the lands belonging to SC respondents. This had helped the labourers to get wage employment and thereby preventing their migration, and taking up better farming instead. As several programmes were undertaken under FFW programmes, the labourers were able to get rice, which mitigated their food scarcity. Coconut plantation helped the villagers to get additional income and further helped them to reduce the losses incurred from the main crops.

2) Although, before the implementation of WSDP, there were many women groups in the village, their participation in the development process accelerated only after the implementation of the WSDP in the village. The

women had been given due representation in the two watershed committees (9 members) and in VDC (3 members).

3) Many people had got benefited through bunding programme undertaken under Drought Mitigation activities of watershed projects. Prior to the implementation of watershed programmes, about 30 household used to migrate during the non-seasonal periods. Now, it is significant that the families, which had migrated, with no hopes of coming back, had returned and settled in the village as a result of the implementation of watershed activities. All these families have been able to make their living in the village itself.

4) It was observed that women had been playing an active role in planning the programmes, inspection of works; review of works and in decision-making. Under A.P.R.L.P., two more women groups had come up in this village. In December 2002, under “*Jalajeevani*”, all the women (SHG members) formed into a “*Gramaaikya Sangham*” (Federation of SHGs / Village Organisation), called “*Yadhavrajula Mahila Abhivrudhi Sangham*”. With 12 members, acting as Executive Committee. Of the 12 members, five were functioning as office-bearers. Under their leadership, “*Velugu*” (DPIP) had been identified PoP. They met once every month in the watershed office, i.e., on 21st and discussed various issues related to watershed activities as well as general issues of women. They also discussed about the working of other women’s groups in the village. Should there be any problems, a few members in this committee would form into a group and initiate measures to solve the problem. This being a government watershed, the government rules stipulated that the V.O. should take the responsibility of organizing and implementing watershed programmes. These women involved themselves in watershed programme and discharged their responsibilities in a successful manner. Against a sum of Rs 4 lakhs allotted to cover all the SHGs under livelihood programme in this village, Rs 2 lakhs had already been released to *Gramaaikya Sangham*, and the Sangham had prepared an action plan for implementation. Twenty-two women groups were institutional members in *Gramaaikya Sangham* making for a total membership of 297 women. Owing to the emergence of *Gramaaikya Sangham*, there was unity among the women and they were active in decision-making and strengthening of sanghams.

5) As a part of *Jalajeevani* programmes, the members of V.O. were given training for eight days on watershed concept, VO concept, and gender concept. On the same lines, a Four-day training was also organized in the village for women members of SHGs on strengthening of livelihood concepts and strategies. This had accelerated the active participation of women in

the watershed activities. These sanghas through their work had saved an amount of Rs 3,62,429/-. Besides this, they were also contributing an amount of Rs 50/- per month to become members of the sangham.

6) As a part of income generation activities, 23 women had taken up activities like ram lamb rearing, dairying, sheep rearing, vegetable vending, petty business etc. They had also planned to take up agarbathi making as another income generation activity, and discussions were being held about taking other income generating activities under APRLP. A group of 25 active women had formed into a group called “Women Leaders”. They participated in the area level trainings and in turn, trained other women of various groups in this village. They had attended three such training courses on various developmental issues.

7) The Women had access to meet the Bank Managers, M.P.D.O, M.R.O and Village Secretary to report any problem, or to discuss about loan or other issues, and were in a position to tackle problems on their own by negotiating with responsible persons related to that issue.

3.7. Socio-Economic Profile of the Respondents and Their Perceptions on Institutional Capacities in the Watershed Implementation

Respondents by Caste and Size Class

The following **Table 5** gives the distribution of respondents by caste and size classes.

Table 5: Distribution of Respondents by Caste and Size Classes (in %)

Social Category	Banukota					Elakuntla				
	Land less	Marginal farmers (Below 2.5 acres)	Small farmers (2.5 acres)	Medium and large Farmers (5 acres and above)	Total	Land less	Marginal farmers (Below 2.5 acres)	Small farmers (2.5 acres)	Medium and large farmers (5 acres and above)	Total
SC/ST	-	(1) 10	(9) 39.1	(1) 9.1	(11) 24.4	-	-	(4) 28.6	-	(4) 10.0
BC	(01) 1	(8) 80	(13) 56.2	(8) 72.7	(30) 66.7	(1) 100	(1) 100	(10) 71.4	(11) 45.8	(23) 57.5
OC	-	(1) 10	(1) 2.34	(2) 18.2	(4) 8.9	-	-	-	(13) 54.2	(13) 32.5
Total	(01) 2.2	(10) 22.2	(23) 51.1	(11) 24.5	(45) 100	(1) 2.5	(1) 2.5	(14) 35	(24) 60	(40) 100

Note: Figures in parentheses represent no. of respondents

As seen from the above table, 66.7 per cent of the respondents in Bhanukota village belonged to Backward Caste, followed by Scheduled Castes/Scheduled Tribes at 24.4 per cent and forward caste/ OC at 8.9 per cent while in Elakuntla village 57.5 per cent of the respondents belonged to backward castes followed by O.Cs at 32.5 per cent and S.Cs/S.Ts at 10 per cent. With regard to size classes in Bhanukota village, as many as 51.1 per cent were small farmers followed by medium and large farmers (24.5 per cent), marginal farmers (22.2 per cent) and landless farmers (2.2 per cent). In Elakuntla village, as many as 60 per cent of the respondents belonged to medium and large farmers, followed by small farmers who constituted 35 per cent while landless and marginal farmers formed only 5 per cent.

Literacy Levels of the Respondents

A peep into the literacy picture of the sample villages reveal that literacy-rate across all castes was higher in Elakuntla (62.5 per cent) than Banukota village (37.5 per cent). Compared to O.Cs. across size classes, the level of literacy was low among landless, marginal, and small farmers compared to medium and large farmers.

Table 6: Educational Status of Respondents across Caste and Size Class (in %)

Sl. No.	Educational status	By caste				By size class				
		SC/ST	BC	OC	Total	IL	MF	SF	Med and LF	Total
I Bhanukota										
	(a) Illiterates	(9)	(20)	-	(29)	-	(07)	(17)	(05)	(29)
		82	66.7		64.4		70	73.9	45.4	64.4
	(b) Literates	(2)	(10)	-	(16)	-	(03)	(06)	(06)	(16)
		18	33.3		35.6		30	26.1	54.6	35.6
	Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
II Elakuntla										
	(a) Illiterates	(02)	(02)	(03)	(15)	(1)	-	(06)	(08)	(15)
		50	43.5	23.1	37.5	100		43	33.3	37.5
	(c) Literates	(02)	(21)	(10)	(25)	-	-	(8)	(16)	(25)
		50	56.5	76.9	62.5			57	66.7	62.5
	Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

Land Ownership Pattern

Table 7: Land Particulars of the Respondents in Watershed Region across Classes (%)

Land	Bhanukota				Elakuntla			
	MF	SF	Med.F and LF	Total land (Acres)	MF	SF	Med.F and LF	Total land (Acres)
Irrigated	(0.25)	-	(3.00)	(3.25)	-	(1.00)	(58.00)	(59)
	7.7		92.3	100	1.7	98.3	100	
Un-irrigated	(21.50)	(96.90)	(98.50)	(216.90)	(2.50)	(62.80)	(319.10)	(384.40)
	9.9	44.7	100.0	100.0	0.7	16.3	83	100.0

Note: Figures in parentheses represent actual acres owned by the respondents

Legend: MF-Marginal Farmer, SF-Small Farmer, LF-Large Farmer

The extent of land owned by individual respondents across sample villages varied widely; the extent of irrigated land in each of the villages was less than un-irrigated land and the acreage - irrigated and un- irrigated taken together - was higher in Elakuntla compared to Bhanukota.

Assets Owned by the Respondents

The ownership of productive assets among respondents (See, **Annexe L**) was directly related to caste and size class; higher the size class and caste status, larger was the share of productive assets. Almost all SC/ST respondents owned *pucca* houses, which was mainly due to the RDT's housing programmes. Some of the sample respondents had taken to rearing small and big ruminants, thanks to the income generating activities initiated by the RDT through bank linkage under WSDP.

Particulars of the Income of the Respondents

In order to analyse the distribution pattern of the income of the respondents, the respondents were classified into two income groups (below and above poverty line). Relevant information has been presented in the following table.

As seen from the table-8, the income of the respondents in both the villages was directly related to caste (OCs followed by BCs and SC/ ST), and income variation across size classes was related to increasing intensity of land holding size.

Table 8: Income Particulars of Respondents across Caste and Size Class (%)

Sl. No.	Income range	By caste				By size class				
		SC/ST	BC	OC	Total	IL	MF	SF	Med/LF	Total
1. Bhanukota										
	(a) Below Rs 20,000	(11)	(29)	(02)	(42)	(01)	(09)	(23)	(09)	(42)
		100	96.7	50	93.3	100	90	100	81.8	93.3
	(d) Above Rs 20,000	-	(01)	(02)	(03)	-	(01)	-	(02)	(03)
			3.3	50	6.7		10		18.2	6.7
	Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		24.4	66.6	9	100	2.2	22.2	51.1	24.5	100
2. Elakuntla										
	(a) Below Rs 20,000	(04)	(16)	(06)	(26)	(01)	(01)	(10)	(14)	(26)
		100	69.6	46.2	65	100	100	71.4	58.4	65
	(d) Above Rs 20,000	-	(07)	(07)	(14)	-	-	(04)	(10)	(14)
			30.4	53.8	35			28.6	41.6	35
	Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		10	57.5	32.5	100	2.5	2.5	35	60	100

Note: Figures in parentheses represent no. of respondents

Membership in Watershed Committees

The programme facilitated the formation of people's institutions, i.e., the watershed Committee ensured community participation in the programmes. The process of setting up of this institution gave rise to new tiers of power in the watershed villages. One positive contribution of the programme was that it led to the formation of people's institutions and promotion of leadership at the grassroots level, and creation of awareness among people of importance and content of the programme and the need to participate in it. While given the inherent bottlenecks to institution building and leadership promotion in a tradition-bound rural society, it has to be acknowledged that the WSDP induced leadership promotion largely on caste lines, and that the entrenched conventional friction-ridden leadership seemed to have a strangle-hold over whatever fresh forms of leadership that had emerged in the village.

With regard to the membership of respondents in watershed committees in the villages, six were found to be from Banukota and four from Elakuntla village. Caste-wise, BCs had the highest representation on the Executive Committee of the watershed committee, followed by SC/

STs. and other OCs., and across size class, a majority of the members were from small farmer category, followed by medium and small farmers.

Table 9: Membership of the Respondents in Watershed Committee across Caste and Size Class (%)

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total
I Bhanukota									
Yes	(01)	(04)	(01)	(06)	-	-	(06)	-	(06)
	10	13.3	25	13.3			26.1		13.3
No	(10)	(26)	(03)	(39)	(01)	(10)	(17)	(11)	(39)
	90	86.7	75	86.7	100	100	73.9	100	86.7
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
	100	100	100	100	100	100	100	100	100
II Elakuntla									
Yes	(01)	(3)	-	(04)	-	-	(02)	(02)	(04)
	25	13		10			14.3	8.3	10
No	(03)	(12)	(13)	(36)	(01)	(01)	(12)	(22)	(36)
	75	87	100	90	100	100	85.7	91.7	90
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

Contributions to Watershed Committee

A look at the contributions made to the Watershed Committee by the respondents by caste and size classes has revealed that in Bhanukota watershed village all the respondents had paid only Rs 22 towards membership fee. Contributions were also made in the form of free labour/ family labour which were treated as contribution amount. The reason cited for this was not their poor economic condition to pay in cash alone, but also their perception that by participating in these activities, they got a sense of involvement in the programme and more recognition to their work. The villagers had also made a covenant that the beneficiaries should also participate in the work.

In addition to the membership fee, respondents of Elakuntla village also made contributions for undertaking watershed works/treatment. In terms of contributions made to the WDC, the OC's share seemed to be the highest followed by BC's and SC/ST's. Medium/ large Farmer's contribution to WDC was highest by small farmers and marginal farmers.

Table 10: Contributions to the Watershed Committee by the Respondents by Caste and Size Class (in Rs)

Social Category	Banukota					Elakuntla				
	LL	MF	SF	Med.	Total	LL	MF	SF	Med.	Total
contribution amount (in Rs).	and LF (amount)					and LF (amount)				
SC/ST	-	(1)	(9)	(1)	(11)	-	-	(4)	-	(4)
		22	198	22	242			244.50		244.50
BC	(1)	(8)	(13)	(8)	(30)	(1)	(1)	(10)	(11)	(23)
	22	176	286	176	660	22	272	572	1391	926.70
OC	-	(1)	(1)	(2)	(4)	-	-	-	(13)	(13)
		22	22	44	88				2846.15	2846.15
Total	(1)	(10)	(23)	(11)	(45)	(1)	(1)	(14)	(24)	(40)
	22	220	506	242	990	22	272	478.43	2179.17	1482.30

Note: Figures in parentheses represent no. of respondents

Participation of Respondents in Grama Sabha Meetings

As revealed from the table below in both the villages, more than 80 per cent of the respondents interviewed took part in the Grama Sabha meetings. This clearly showed the involvement of the community in the project activities.

The rate of people's participation in watershed Grama sabha meetings was higher in Elakuntla village compared to Banukota village. The low participation in Bhanaukota village might be explained in terms of low social and human capital leveled there. Bhanukota village's record of social cohesion among the village community was poor as a result of long drawn factional feuds coupled with disturbances caused by Naxals. In terms of human capital endowment also, Bhanukota village was poor with low literacy levels among SC/ST and BCs who constituted a large chunk of population. Elakuntla village could boost of a better record in this respect.

Table 11: Do the Respondents Participate in Committee Run Watershed Grama Sabha Meetings in the Village across Caste and Size Class (%)

	By caste				By size classes				
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total
Bhanukota									
Yes	(10)	(25)	(03)	(38)	(01)	(09)	(20)	(08)	(38)
	90	83.3	75	84.4	100	90	87	72.7	84.4
No	(01)	(05)	(01)	(07)	-	(01)	(03)	(03)	(07)
	10	16.7	25	15.6		10	13	27.3	15.6
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
	100	100	100	100	100	100	100	100	100
Elakuntla									
Yes	(04)	(22)	(12)	(38)	(01)	(01)	(14)	(22)	(38)
	100	95.7	92.3	95	100	100	100	91.7	95
No	-	(01)	(01)	(02)	-	-	-	(02)	(02)
		4.3	7.7	05				8.3	5
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

Suggestions of Respondents

Respondents who participated and gave suggestions were more in number in Elakuntla village compared to Bhanukota village, and among them, SC/STs in Bhanukota scored higher while OCs and BCs together, in both the villages, scored higher in offering suggestions.

Coming to size classes, medium and large farmers in both the villages were found to be more active compared to other size-classes. The respondents participated in watershed Grama Sabha meetings and also gave suggestions about the usefulness of the programmes. Suggestions were made in regard to the nature of proposed works/ prioritisation of works/ activities, site selection, quality of completed and ongoing works, village developmental works and related problems and probable remedial measures (agriculture, drought, risk livelihoods, general problems of the village etc.)

Some of the respondents neither participated nor gave suggestions in the Grama Sabha citing personal reasons (out of station/ill health).

Table 12: Do the Respondents Give any Suggestions During Watershed Grama Sabha Meetings? By Caste and Size Class (%)

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med./LF	Total
Bhanukota									
Yes	(07)	(13)	(02)	(22)	(01)	(03)	(12)	(06)	(22)
	70	52	66.7	57.9	100	33.3	60	75	57.9
No	(03)	(12)	(01)	(16)	-	(06)	(08)	(02)	(16)
	30	48	33.3	42.1	66.7	40	25	42.1	
Total	(10)	(25)	(03)	(38)	(01)	(09)	(20)	(08)	(38)
	100	100	100	100	100	100	100	100	100
Elakuntla									
Yes	(02)	(14)	(08)	(24)	(01)	(01)	(07)	(15)	(24)
	50	63.6	66.7	63.2	100	100	50	68.2	63.2
No	(02)	(08)	(04)	(14)	-	-	(07)	(07)	(14)
	50	36.4	33.3	36.8			50	31.8	36.8
Total	(04)	(22)	(12)	(38)	(01)	(01)	(14)	(22)	(38)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

Employment Generation

A majority of the sample respondents (90.5 per cent in Bhanukota and 91.2 per cent in Elakuntla) in both the villages reported getting 6-10 days of wage employment per month accrued through watershed development programme (**See, Annexe M**). For the landless workers, wage employment under WSDP was the single most benefit accrued during the watershed cycle.

Benefits Accrued from the Project

Almost all the sample respondents from both the villages had reported (**See, Annexe N**) as having benefited from the works on moisture and water conservation, conservation of soil and stoppage of soil erosion, promotion of horticulture to improve the land, afforestation in the watershed region, and generally, for creation of employment opportunities accrued as a result of the above activities (income generating activities, agricultural development measures, watershed plus activities etc.).

Impact of the Project in Preventing Migration

The WSDP's contribution to the reduction of migration was mainly on two fronts: First, that the watershed works had a labour component and

second, that the additional area brought under cultivation would result in incremental employment opportunities to the villagers.

Table 13: Respondent's Opinion on the Impact of Watershed in Preventing Migration by Caste and Size Class (%)

	By caste				By size class					
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total	
Bhanukota										
Prevented	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)	
	100	100	100	100	100	100	100	100	100	
No	-	-	-	-	-	-	-	-	-	
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)	
	100	100	100	100	100	100	100	100	100	
Elakuntla										
Prevented	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)	
	100	100	100	100	100	100	100	100	100	
No	-	-	-	-	-	-	-	-	-	
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)	
	100	100	100	100	100	100	100	100	100	

Note: Figures in parentheses represent no. of respondents

Almost all the sample respondents, as indicated in the table, across villages by caste and size classes had mentioned that after the inception of watershed development programmes, migration had come to a halt due to the availability of wage works locally during lean season as also drought relief works taken up through watershed works/ activities.

Respondents' Opinion about the Quality of Works

Almost all the sample respondents by caste and size classes in the sample villages had a positive opinion (see, table-14) on the quality of works carried out by RDT due to people's participation, transparency, accountability measures adopted in the process of WSDP implementation as well as contents of the works carried out, viz., land development works, income generation programme under watershed plus activities.

The sample respondents had reported that in GO-PIA sponsored watershed villages where the watershed Committee, in general, and the chairman, in particular, were playing key roles in the implementation of WSTP they were found to be motivated by profit/rent seeking interests. In contrast, in the study villages, the CBO's/ Village institutions/Committee viz., WDC, VDC, were playing an advisory role, and not indulging in profit

seeking or pursuing petty political interests. This difference was attributed to the long-term involvement of RDT/AF in awareness creation and facilitation of the village institutions (taking into account the village development as a whole). In APRLP funded watershed villages, particularly in GO-PIA villages, implementation of watershed activities was carried out through SHGs and now VO Executive Committees. This institutional arrangement (village organisations implementing WSDP) was not acceptable to the earlier WSD committees, in general, and chairpersons, in particular. Due to all this, the watershed works were being suspended. However, it was found that in one of our study villages (Bhanukota), AF/RDT was able to overcome this situation since it could adequately sensitize the village community on the need for implementing WSDP through VO comprising all the SHGs.

Table 14: Respondent's Opinion on the Quality of Works Carried Out by RDT by Caste and Size Class (%)

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total
Bhanukota									
Satisfied	(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
Not satisfied	-	-	-	-	-	-	-	-	-
Total	(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
Elakuntla									
Satisfied	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
Not satisfied	-	-	-	-	-	-	-	-	-
Total	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100

Note: Figures in parentheses represent no. of respondents

Respondents' Opinion on Whether Their Villages Benefited from the GP Programme or Not?

The respondent's opinion on whether the village did benefit from Grama Panchayat's programmes, or not, across villages by caste and size class, was not uniform. As revealed from the table, as many as 75 per cent of the respondents of Elakuntla village as against 64.4 per cent in Banukota village had reported that they did benefit from the GP programme viz.,

wage employment works, village developmental works, infrastructural development works and welfare programmes. Across caste groups, OCs had responded positively compared to BCs and SC/STs.

Table 15: Respondent's Opinion on Whether Village Benefited from G.P Programme across Caste and Size Class (%)

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total
Bhanukota									
Yes	(06)	(20)	(03)	(29)	-	(06)	(16)	(07)	(29)
	54.5	66.7	75	64.4		60	69.6	63.6	64.4
No	(05)	(10)	(01)	(16)	(01)	(04)	(07)	(04)	(16)
	45.5	33.3	25	26.7	100	40	30.4	36.4	35.6
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
	100	100	100	100	100	100	100	100	100
Elakuntla									
Yes	(01)	(17)	(12)	(30)	(01)	(01)	(07)	(21)	(30)
	25	73.9	92.3	75	100	100	50	87.5	75
No	(03)	(06)	(01)	(10)	-	-	(07)	(03)	(10)
	75	26.1	7.7	25			50.0	12.5	25
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

The respondents who responded negatively with regard to the benefits of GP works cited the following reasons, viz., providing not sufficient employment, contractor's involvement in the execution of the programme and GP sarpanch not having adequate powers etc.

Respondent's Suggestions to Make WDC Work Efficiently

As suggested by the sample respondents, the steps needed to make WDC run more efficiently were: promotion of area-specific works/ activities, watershed plus activities, execution of the WSDP through potential NGOs, and integration of the village.

The sample respondents were of the view (**See, Annexe O**) that the funding for the watershed (Govt. funded) was not area-specific in allocations (common or fixed to all the areas/regions), but focused mainly on the achievement of targets based on sector-wise allocation, viz., Agriculture, Forestry and Minor Irrigation etc. Further, they also said that

the guidelines regarding watershed plus activities for government watershed villages were only on paper and seldom followed.

Respondent's Opinion on Involving Panchayats

As seen from the table below, as many as 93.3 per cent of the respondents in Bhanukota village and 90 per cent of Elakuntla watershed villages had emphasized the necessity of involving panchayats in watershed implementation process.

Table 16: Respondent's Opinion on the Necessity of Involving Panchayats in Watershed Activities - By Caste and Size Class [%]

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med/LF	Total
Bhanukota									
Yes	(10)	(28)	(04)	(42)	(01)	(09)	(22)	(10)	(42)
	90.9	93.3	100	93.3	100	90	95.7	90.9	93.3
No	(01)	(02)	-	(03)	-	(01)	(01)	(01)	(03)
	9.1	6.7		6.7		10	4.3	9.1	6.7
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
	100	100	100	100	100	100	100	100	100
Elakuntla									
Yes	(03)	(20)	(13)	(36)	(01)	(01)	(11)	(23)	(36)
	75	87	100	90	100	100	78.6	95.8	90
No	(01)	(03)	-	(04)	-	-	(03)	(01)	(04)
	25	13		10			21.4	4.2	10
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

Although normal GP works were afflicted with certain deficiencies like contractor's involvement, inability to generate adequate local employment, bureaucratic delay etc. a good majority of the respondents still favoured GP's involvement in WSDP due to the fact that these institutions were closer to village communities, and also took into account the wholesome development of the village. In addition, their programme implementation was location-specific and the institutional mechanism democratic and egalitarian with scope for reservation etc.

Respondent's Opinion on Whether the Involvement of Panchayats Enhanced Transparency and Accountability

As can be seen from the table below, respondents from Bhanukota (71.7 per cent) and Elakuntla (70 per cent) had opined that the involvement of Panchayats resulted in improvement in transparency and accountability in watershed implementation.

Table 17: Respondent's Opinion on Whether the Involvement of Panchayats Results in Enhanced Transparency and Accountability Mechanism in Watershed Programme Implementation - By Caste and Size Class (%)

	By caste				By size class				
	SC/ST	BC	OC	Total	LL	MF	SF	Med./LF	Total
Bhanukota									
Yes	(06)	(22)	(04)	(32)	-	(07)	(16)	(09)	(32)
	54.5	73.3	100	71.1		70	69.6	81.8	71.1
No	(05)	(08)	-	(13)	(01)	(03)	(07)	(02)	(13)
	45.5	27.7		28.9	100	30	30.4	18.2	28.9
Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
	100	100	100	100	100	100	100	100	100
Elakuntla									
Yes	(03)	(14)	(11)	(28)	-	-	(10)	(18)	(28)
	75	60.9	84.6	70			71.4	75	70
No	(01)	(09)	(02)	(12)	(01)	(01)	(04)	(06)	(12)
	25	39.1	15.4	30	100	100	28.6	25	30
Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
	100	100	100	100	100	100	100	100	100

Note: Figures in parentheses represent no. of respondents

However, there were variations in responses to this query from the respondents corresponding to the social categories they belonged to. In particular, the OC community respondents were more in favour of Panchayats than the other two social categories (SC/STs and BCs) who did not seem to be optimistic that Panchayat's involvement would result in better transparency and accountability, in WSDP. The overwhelming majority of the respondents who were positive about this issue cited reasons such as social audit, public scrutiny of the accounts, democratic decision-making, and broad based composition of the Panchayats etc. for their optimism. However, the respondents who were "negative" cited reasons such as dominance of certain

castes, illiteracy of GP sarpanch, political pressures that affected transparency and accountability in WSDP for their pessimism.

3.8. Project Outcomes and Impact in the Selected Villages

In this section, issues concerning institutional governance, equity, diversification, income and employment gains and women-leadership development have been discussed and analyzed.

Governance and Institutional Issues in the WSDP

No major problems were faced in the implementation of works, and this might be because the works to be executed under WSDP had been discussed and decided in prior meetings (Expenditure for the works, survey of works, auditing of works, preparation, submission and payment of bills - all these had been done after discussing the same in the meetings). RDT did not take up the works on its own decisions; instead took-up works in which people were interested, and were beneficial to them. Though there were user groups, and cheques were issued only in the name of labour group leaders, the disbursements of bills were done under the supervision of the Committee. All payment transactions, both physical and financial, were entered in the register and attested. Details of works executed in the previous years, physical and financial achievements, and works planned for the next year were made available to the people through Grama Sabha. A yearly report on the activities of watershed was printed and distributed to every household in the village.

Benefits Derived Through Watershed Development Programmes:

The agricultural labourers reported that they were benefited in many ways with this programme. They said they used to earn about Rs 20-25 per day, which was insufficient for the family and faced many hardships in day-to-day life. There was a wide difference between the wage paid to men and women. There were not enough work to take up as contract labour, and there was little work after harvesting of groundnut was over. Most of the farmers used to migrate in search of labour work, as they had no other source of income. But, after the introduction of watershed programmes, the labourers were able to get employment to suit their ability and skills; this halted migration for want of work locally.

Equity Issues:

A look into the perceptions of the people on the equity issue of watershed programme would be educative. Accrual of benefits across villages and across economic and size classification was far from equitable.

Farmers were classified as large, medium, small and marginal farmers and there were landless labourers technically classified as farmers. Benefit accrual was currently lopsided, in that, irrigated farmers reaped higher benefits, while landless got only indirect benefits of wage-labour, that too seasonally. Further, plots located in “basins” naturally got more water and for large periods and this tended to give disproportionate benefits to the owners of such plots. Contour bunding had not succeeded in checking the anomaly of large landowners getting more water and also pocket more cash under the “incentive scheme”.

However, the watershed development programme had a positive face to it in the collection of ‘contributions’ while 15 per cent was collected from the OCs and BCs, SCs and STs were charged only 10 per cent during normal years, and during drought years they were charged only 7.5 per cent. The farmers with less acreage of land and SC and STs got preference in the sequence of implementation of the works. The credit for this should go to RDT / AF which had laboured hard to bring about social equity in this matter. The other works initiated by the RDT / AF were as follows:

- 1) During the lean season, the major employment through ‘watershed works’ were given preferentially to landless labourers and with remunerative wage without discrimination based on gender.
- 2) During drought conditions the wage works were extended to the labourers to prevent migration through “drought relief watershed”
- 3) Government programme were made to converge on the poorest of the poor by identifying them in advance.
- 4) Formation of self-help-groups, strengthening of groups, net-working of SHGs (VO) and bringing sustainability among the poor by income generating activities, revolving funds, giving permanent drought fund to RDT SC/ST Sanghas (SHGs), disabled groups etc.
- 5) Undertaking ‘watershed plus activities’ like drought relief, kitchen gardens, smokeless chullas, bio-gas plants, back yard horticulture, income generating activities, permanent drought fund on no-interest basis to the SHGs and disabled groups.
- 6) Formation of labour groups and selection of labour group leader and
- 7) Opening membership in different community based organisations (CBO) for landless labourers

Crop Diversification and the Resultant Benefits

RDT’s demonstration of agricultural practices such as crop rotation, inter-cropping, contour bunding to control soil erosion, and integrated pest

management (for example, eliminating red hair caterpillars by hand-picking, burning gas lights) led to wider adoption of these techniques which gave good results, and in some cases generated additional employment. Demonstration of low-cost technologies and practices had brought about the highest benefits as it kindled farmers' awareness which led to the adoption of improved agricultural practices.

Other beneficial projects included the promotion of "backyard horticulture" planting coconut, mango, papaya, sapota, and curry leaf trees - for both household consumption and sale. Subsidized seeds were provided for kitchen gardens (near houses) in which some residents were growing vegetables and fruits.

Many large farmers had switched over to mango and tamarind cultivation because they perceived that it had less risk than rain-fed groundnut cultivation. The financial incentives from RDT (which lowered input costs) encouraged the farmers to switch over horticulture. They saw mangoes as a guaranteed source of future income. Mango plantation needed less water and was more reliable compared to other irrigated crops.

The farmers benefited from pebble bunding as it reduced the problems of cattle sustaining injuries to their hoofs by stones, as also injuries people might sustain while working in the fields. It also helped in better germination of seeds, and resultant increase (over 50 per cent) in yields. Plots that had most of the stones removed had allowed the farmers to recover seeds at least for the next year's sowing, where untreated fields were totally devoid of any crop-yield.

Villager's participation in watershed development work had led to more unity among workers, and they were able to press for better wages and also for more equitable wages devoid of gender discrimination. Previously, they were not united or had organisational clout; now they had labour group meetings for the distribution of wages, and skills training from RDT. One participant reported that "due to watershed works, my wife and my daughter have been able to get better-paying work. I was able to marry off two of my daughters without indebtedness". Many others had similar stories to report. In addition, the labourers and farmers could come together to donate cash and goods to the victims of earthquake in 2001 (Gujarat earthquake victims), with the assistance of RDT.

Owners of mango plantations depended on the availability of wage labourers, especially as ground-keepers and watchmen. In addition, labour was required for watering the plantation. Together, these operations minimised the migration by workers (typically landless and small/marginal farmers

without irrigation). In the absence of watershed works, many labourers would have migrated during the present drought, though one wondered for how long they could depend on such wage works. Also, as acreage under cultivation and crop yields declined (due to the drought etc.) more farmers used family labour to till their plots. This resulted in reduced demand for wage-labour. Many landowners seemed to think that horticulture programme had mitigated the effects of drought not only for direct beneficiaries (themselves), but also for the tenants who leased their land and for the labourers in their fields. Besides the produce, the traders also made a living out of this trade. Providing work for labourers in the summer months, after the completion of groundnut harvesting, had been a notable benefit from mango plantation.

Backyard horticulture and kitchen garden programme had provided produce for both household consumption, as well as, for sale. Women found backyard horticulture and kitchen garden projects as beneficial, and more economical than buying inputs from private sources. Some beneficiaries reported that during the recent drought their trees had been less productive than normal. Persistent drought, they thought, might affect the health of the plants.

Employment Generation

Reduced flow from bore-wells, open-well failures, and problems of erratic supply of electricity to irrigation pumps had led to shortages of water for agricultural and household use. If the drought continued, and the acreage under cultivation shrunk, more and more farmers would have stopped hiring labour and used only family labour. Therefore, drought and water shortage were the principal factors responsible for the reduction in demand for wage labour. Rain-fed groundnut cultivation was a major source of employment for many of them, and they perceived few alternatives to this source of employment.

During drought, many labourers sought out non-farm activities, such as construction and bore well digging. Some migrated to Anantapur for papaya transporting and processing work there. Several others migrated for work in irrigated agricultural lands. Pressure to migrate occurred mainly during the lean season after rain-fed groundnut harvesting was completed i.e., from March to June. If the drought conditions persisted, many more would be forced to migrate to wherever work was available.

The need for migration among labourers had been largely reduced by both RDT and government wage labour works in those areas where they were available. Drought-relief work (such as road repairing) funded

by local grama Panchayats had also reduced migration to some extent. Though the consensus was that landed farmers benefited more from watershed activities than labourers, there was an indication that labourers also benefited as increased agricultural productivity created demand for more labour and higher wages. In addition, many had benefited from wage labour directly created by the watershed projects. Watershed works (especially pebble bunding, construction of check-dams, and horticulture-related activities) had thus been a major source of employment for labourers, especially during lean periods. There were other benefits as well as greater unity and organisational power created among workers through the watershed programme which emboldened them to vocalize their concerns such as better wages, gender equity, and skills training.

Income through watershed development programme had helped some labourers to survive through drought, and even pay off their debts. For example, a particular small farmer reported that but for the full-time watershed works, he would have found it difficult to support his family. He found no alternatives to the watershed works, which he relied on for income. This steady source of employment had lessened the effects of drought on his household, enabled him not to compromise on the family's food consumption or health.

Women labourers also shared many of the same concerns as expressed by men and their main concern regarding the effects of the present drought was the reduced availability of agricultural wage labour. Many women also had been relying on wage labour associated with watershed development activities, such as avenue plantation. Gender equity in wages under watershed programme had led women to press for better wages in agriculture as well. As they traditionally did most or all the chores in their homes, it became a challenge to women to find time for both income-generating and household duties. Several women wanted training in diverse non-farm activities such as skilled trades and crafts, marketing and dairying. Women also highlighted the need for opening local milk collection centres to cater to local dairy farming.

Labourers stated that they would need assistance from the government and NGOs, especially the continuance of wage works as long as the drought lasted. The watershed development fund, created for the future maintenance of watershed structures, would hopefully allow for the continuance of some wage labour work in the future. Many also expressed a need for greater diversification of livelihoods, more employment generation, training in job skills, marketing of handicrafts besides larger loans from self-help groups to purchase more livestock and other requirements for sustainable

income-generating activities. Also required were loan schemes for starting new businesses or other livelihood activities. Some hoped that non-farm activities (garment-making and motor repairing) and horticulture would gain importance in future.

Women's Leadership Development

As a fall out of the RDT programme activities and, later, the AF watershed development programmes, the active participation and leadership of women in decision-making had come of age, and become a common characteristic in villages. In particular, several women grabbed the opportunity to increase their participation in a variety of activities through self-help groups.

Since the inception of watershed programme activities, women's attendance was increasing in grama panchayat, mandal and district-level meetings. Formerly, most women would not attend government meetings, even while their husbands would. Many women felt that they could approach concerned officials on issues of concern to them, like drought-relief works, equitable distributions of benefits, compensation for agricultural losses, and other issues. As a sign of their increased awareness of women's issues, several members of the women's groups also attended the recent International Women's Day celebrations in Anantapur this year.

The provision for equal pay for men and women in watershed related works has been a threshold improvement over the gender disparity of traditional agricultural labour. With this mandate for equal wages to men and women in watershed activities, the problem of gender disparity in agricultural wages had come down substantially, and increasing numbers of women had begun asking why wages were not equitable.

Bio-Gas Promotion

Several women expressed that it was a burden on them to undertake income generating activities besides household work. Women reported as having to spend around 7-8 hours per day on agriculture or on other income generating activities in addition to 4-5 hours a day on household chores, and men seldom did household work, but indulged in rest or recreation after work. Drought added to their misery, as they had to spend time in collecting firewood for cooking. Bio-gas would remedy the situation, as it would help women save time which they would otherwise have spent collecting firewood.

Provision of fuel for cooking (both government funded gas cylinders and RDT supported bio-gas systems) had benefited several women to save time which they would have otherwise spent on fuel-wood collection. It

also reduced pollution. The high cost of gas- refills was deterring some from acquiring them. Bio-gas generation was also not feasible as it required substantial funds to acquire a minimum of four cattle required to run a bio-gas unit. Financial assistance to acquire milch cattle would remedy the situation as it would enable women to keep milch cattle for the dual purpose of milk and dung for bio-gas generation.

3.9. Summing Up

As presented at the end of Chapter II of this report, a similar attempt has been made below to discuss the findings in the larger theoretical framework of watershed development issues which were examined in the first chapter.

- In Andhra Pradesh, the WSDP was implemented directly through village based institutions such as watershed committees, village development committees and village organisations [VOs] by AF/RDT.
- It is to be noted here that in spite of constitutional mandate the Panchayats were not involved in NRM in Andhra Pradesh (cf. Baumann 1998). In this regard, the experiment of AF/RDT in WSDP was innovative in terms of creation of institutional arrangements such as village development committees (advisory committee) over watershed committee.
- It was innovative that all important stakeholders representing various village based organisations from chair person of panchayat to leaders of various women self help-groups were co-opted as active partners in the functioning of VDC.
- As a result of this broad based representation in such committees, the benefits accrued to poor were tangible and impressive in terms of employment generation, arresting migration, women empowerment (high social capital), gender parity in wages, institutional development etc., (also, refer Kerr *et al* 1998; Reddy *et al* 2004).
- Although the grama Panchayats had no defined role in the above activities being carried out by AF/RDT, the Sarpanch of grama panchayat was made an active partner in the VDC much unlike in the case with watershed committee through which WSDP was implemented elsewhere in Andhra Pradesh.
- This kind of functional arrangement facilitated the VDC in accessing panchayat funds, other income generating programmes besides better conflict resolution (refer, also, Dwarakinath 1995; Younis

and Dragun 1993). In addition, this had further resulted in better accountability, transparency, and social audit in WSDP (see, also, Baumann 1998).

- The need and strategy of involving Panchayats in the future WSDP evoked encouraging responses from the various stakeholders including respondents.
- An overwhelming majority of the respondents felt positive about the role of Panchayats in WSDP and the reasons cited were proximity to the people, democratic-decision making, public scrutiny of the accounts, broad based composition of Panchayats (due to reservation) etc.
- Notwithstanding these finer points of supposed Panchayats involvement in WSDP, there were certain apprehensions expressed regarding the capacity of the Panchayats, especially of grama Panchayats for handling activities of NRM. Experiences revealed that in the formative phase the WSDP activities were plagued by intense political rivalries, political patronage, group, and personal prejudices resulting in delayed process (refer, also OIKS and TRRR 2000).
- Added to these, the nature of works carried out by the GP was more contractual than people and location-specific. As a result, the distributions of benefits were found to be skewed. There was also an attendant feeling among the vulnerable categories that these institutions were elitist, dominated and controlled by the rural rich belonging to dominant castes (see, for example, Farrington *et al* 1999; Baumann 1998).

CHAPTER-IV

CONCLUSIONS AND POLICY RECOMMENDATIONS

The prime objective of the study was to assess the extent of involvement of panchayats and community based organisations in the formulation and implementation of watershed development programmes. For assessing both involvement and performance, we adopted a modified version of institutional framework developed by Vansant (2003). This institutional framework provided an opportunity to assess the performance of panchayats in achieving programme results effectively, using their institutional and technical resources. Further, it was able to assess both efficiency and effectiveness at a select point in time. The institutional sustainability was gauged more in terms of forward-looking attributes such as organisational autonomy, leadership capabilities and more importantly, the resource endowment, which, in turn, ensured sustainability and self-reliance in the future. Set in this analytical framework, the study had the following objectives:

- i. assessing the institutional capacity of panchayats and CBOs in the formulation and implementation of watershed development activities;
- ii. studying the linkages and interactions between the panchayats and the CBOs; and
- iii. exploring the possibility for designing new strategies aimed at participatory natural resource management.

In line with the above objectives, the study addressed the following specific tasks:

- analysing roles and responsibilities of panchayats and CBOs;
- assessing leadership and management dimensions;
- exploring the participation of communities particularly of the disadvantaged groups;
- mechanisms for creating awareness, monitoring the resources, equitable sharing of benefits and conflict resolution;
- examining the long-term and short-term strategies adopted by the panchayats and village based organisations for the execution of WSDP; and
- looking into aspects like water or soil-moisture conservation, employment, labour migration, social harmony and such other socio-economic and political aspects.

In order to examine the above objectives and issues of the study, an intensive fieldwork in the two selected districts, one each in Karnataka and Andhra Pradesh, was conducted by covering two different systems involved in the execution of watershed development programmes. The purpose of this comparative study was to learn and record the experiences for bringing necessary policy changes in the formulation and implementation of watershed development programmes. In terms of sample frame, the unit of inquiry was the grama panchayat (GP), which was the lowest tier in the three-tier system of Panchayat Raj and the CBOs working at the village level. Methods like Focus Group Discussions (FGDs) and stakeholders discussions were used for the collection of primary data, as also secondary information. A census survey was adopted for covering all the respondents [177 HH] in five sample villages in Karnataka, while in AP, a sample of 85 respondents, based on probability proportional random sample, in two villages were interviewed.

4.1. Findings of the Study

The major findings of the study, covering both Karnataka and Andhra Pradesh, have been presented below:

- The grama panchayats were able to provide an enabling atmosphere for sub-committees to carry out their activities without serious obstacles. The office-bearers of these committees had observed that “We had received good support and encouragement from the President, Secretary and members of the grama panchayats whenever we went to them, be it giving recognition to the sub-committee or signing of cheques or giving approvals to micro plans”. This needed to be institutionalized through establishing both organisational and functional linkages. As referred to, in Karnataka, the State Panchayat Act provides for constituting sub-committees for specific purposes under Section 61 A, and using this provision, the FES had been able to constitute a good number of hamlet level sub-committees which came under the administrative control of the grama panchayats.
- It is significant to note from the study that the involvement of grama panchayats in monitoring and supervision of the activities carried out by the sub-committees had resulted in ensuring better transparency and accountability. The activities of the sub-committees were made accountable to the grama panchayats as the latter had the powers to give approvals to micro plans prepared

by the sub-committees. Also, funds were given directly to the grama panchayats and released through them to the sub-committees, and more importantly, the panchayats had been given the powers of recognizing the sub-committees formed by the communities. All these had enabled the process to be transparent, responsive and accountable.

- As a result of this decentralized and participative process, the sub-committees were able to achieve their tasks in a more responsive manner. While expressing their satisfaction the villagers felt that the sub-committees were found to be more responsive institutions for delivering the project benefits like employment generation, ensuring equal wages for men and women, checking migration, increased water availability for livestock, increased groundwater recharge, fodder development, plantation activities and more importantly, eliminating contractors and middlemen from project execution activities. In carrying out all these responsibilities, the sub-committees had taken the help and support of the grama panchayat functionaries.
- In the case of Andhra Pradesh, it was noted that in spite of constitutional mandate, the panchayats were not involved in NRM activities. In this regard, the experiment of AF/RDT in WSDP was innovative in terms of creation of institutional arrangements such as village development committees (advisory committee) instead of watershed committees.
- Further, it was noted that all the important stakeholders representing various village based organisations from chair person of panchayat to leaders of various women self-help groups were co-opted as active partners in the functioning of VDC. As a result of this broad based representation in such committees, the benefits accrued to the poor were tangible and impressive in terms of employment generation, arresting migration, women empowerment (high social capital), gender parity in wages, institutional development etc.,
- Although the grama panchayats had no defined role in the above activities being carried out by AF/RDT, the Sarpanch of grama panchayat was made an active partner in the VDC much unlike in the case with watershed committee through which WSDP was implemented elsewhere in Andhra Pradesh. This kind of functional arrangement facilitated the VDC in accessing panchayat funds, other income generating programmes besides better conflict

resolution. In addition, this had further resulted in better accountability, transparency, and social audit in WSDP.

- The need and strategy of involving panchayats in the future WSDP evoked encouraging responses from the various stakeholders including respondents. An overwhelming majority of the respondents felt positive about the role of panchayats in WSDP and the reasons cited were proximity to the people, democratic decision-making, public scrutiny of the accounts, broad based composition of panchayats (due to reservation) etc.
- With regard to the above strategy, there were certain apprehensions expressed regarding the capacity of the panchayats, especially of grama panchayats in handling the activities of NRM. Experiences reveal that the formative phase of the WSDP activities was plagued by intense political rivalries, political patronage, group, and personal prejudices resulting in delayed process. Added to these, the nature of works carried out by the GP was more contractual than people and location-specific. As a result, the distribution of benefits was found to be skewed.
- There was also an attendant feeling among the vulnerable categories that these institutions were elitist and dominated and controlled by rural rich belonging to the dominant castes.

4.2. Policy Recommendations

The foregoing discussion on the institutional role of grama panchayats and village/community based organisations in implementing watershed activities has thrown up many pertinent issues which call for serious debate both in the policy and academic circles. These issues need to be understood and examined in the background of the 73rd Constitutional Amendment, which mandates the panchayats to undertake the responsibility of managing the NRM activities, so also the recent Hariyali Guidelines. Furthermore, this has necessitated integrating and synergising the implementing institutions like grama panchayats, community-based organisations (watershed committees, hamlet level and village level committees etc.) for carrying out NRM activities in the framework of agro-climatic regional planning. In this context, it is worthwhile to mention some successful models spearheaded by NGOs such as Annasaheb Hazwere's experiments in Ralegaon Siddhi, Tarun Bharat Singh's work in Rajasthan, Myrada in Karnataka, Sadguru Foundation in Gujarat. However, these so called successful models did not have any institutional and functional linkages with the panchayats for

implementing watershed activities which is now emphasized by the Tenth Plan. There is need to forge a partnership between NGOs and panchayats, in order to carry out watershed programmes further (Planning Commission). In fact, the findings of our study clearly make a case for such synergy among local organisations in implementing watershed activities. To fulfil these requirements, recent measures taken by the State Governments like Karnataka to hand over watershed activities, community management of tanks and other rural development activities to panchayats speak very much in favour of them. In order to translate this into reality, Section 79 (recently introduced through an Amendment) of the Karnataka Panchayat Raj Act 1993, enjoins two or more Grama Panchayats within a taluk or within two or more taluks in a district to appoint 'joint committees' for any specific purpose common to all of them or in which they are jointly responsible. This, in fact, provides a space for new institutional mechanisms for covering larger spatial units like NRM and its activities under the system of agro-climatic regional planning.

But great caution needs to be shown in favour of implementing the strategy (handing over watershed management and implementation to Panchayats) proposed by Hariyali Guidelines. According to these guidelines, grama panchayats were supposed to perform both executive and governance functions which the Panchayats might find difficult to manage. As one scholar puts it, "Panchayats were yet fully to be empowered to perform their mandatory governance functions, it is far fetched to expect them to take over the mantle of process intensive, capacity demanded, equity and gender sensitive projects like water development with active involvement of village communities" (Goud 2005). Similar was the view expressed at a Consultation Workshop organized by the Ministry of Rural Development which said that Panchayats should be concerned mainly with facilitating convergence, project review and monitoring and conflict resolution (Rao 2005). In fact, these concerns have been addressed in the recent watershed guidelines known as "Neeranchal" (Department of Land Resources 2006). According to this report, which reviewed the working of the programme all over the country since Hariyali, the new institutional arrangement is not working since the panchayat administration is already overburdened with diverse responsibilities of revenue, development and administration. As a policy suggestion, the Committee suggests for restoring the key role of village watershed committee by positioning them as one of the committees of the grama panchayat (Shah 2006).

Based on the findings of our study and emerging discussion on the involvement of panchayats in the implementation of watershed development programme at the macro level, this empirical study makes the following recommendations:

- Ensure well defined rights of panchayats over natural resources.
- Develop adequate building of capacities of panchayats in terms of overcoming technical deficiencies.
- Provide for adequate devolution of financial resources and functional responsibilities for management of natural resources.
- Ensure synergies between PRIs, CBOs and VOs for effectively managing the natural resources. This can be achieved either by forming Grama Panchayat Sub-Committees (as practised by FES in Karnataka and also as suggested by the Parthasarathy Committee).

ANNEXES

Annexe A: Profile of the Project Villages/Hamlets Selected for the Study

Sl. no.	Indicators	Boyina-varapally	Oorama-digapally	Hirechen hally	Gangena hally	Vyapala pally	Total
1	Population						
	Male	65	45	50	97	76	333 (52.19)
	Female	64	50	39	86	66	305 (47.81)
	Total	129	95	89	183	142	638 (100)
2	Caste composition						
	Thogatas	129	-	-	-	-	129 (20.22)
	SCs	-	95	30	43	28	196 (30.72)
	STs	-	-	44	20	43	107 (16.77)
	Muslims	-	-	15	-	-	015 (2.35)
	OBCs	-	-	-	120	71	191 (29.94)
	Total	129	95	89	183	142	638 (100)
3	Livestock						
	Cows	24	13	41	74	73	225 (18.69)
	Buffaloes	31	-	02	11	08	52 (4.32)
	Oxen	21	02	24	37	35	119 (9.88)
	Goats	10	05	38	98	143	294 (24.42)
	Sheep	31	17	62	112	129	351 (29.15)
	Hens	125	28	-	-	-	153 (12.71)
	Pigs	10	-	-	-	-	10 (0.830)
	Total	252	65	167	332	388	1,204 (100)
4	Occupation						
	Agriculture	22	11	25	48	38	144 (81.36)
	Agricultural labour	-	12	-	9	04	25 (14.12)
	Artisan	-	-	-	04	-	04 (2.26)
	Weaving	04	-	-	-	-	04 (2.26)
	Total	26	23	25	61	42	177 (100)
5	Land details (in acres)						
	Irrigated land	12	-	15	-	24.5	51.5 (4.34)
	Dry land	35	8.5	30	18	91	182.5 (12.86)
	Wet land	08	1.5	09	0.55	19	38.05 (3.21)
	Private land	100	60	33.5	-	40	233.5 (19.69)
	Gomala	350	80	-	65	80	575 (48.50)
	Forest land	300	-	-	104	-	104 (8.77)
	Total	505	150.0	87.5	187.55	254.5	1,184.55 (100)

Cont.....

6 Land holding (in acres)						
No land	01	07	04	08	05	25 (12.89)
Marginal farmers	69	03	10	27	09	108 (55.67)
Small farmers	15	13	06	-	-	34 (17.53)
Big farmers	-	-	05	12	10	27 (13.91)
Total	85	23	25	47	24	194 (100)
7 Project intervention						
Protection of <i>gomala</i> land (in hectares)	100	40	30	40	40	250
Protection of forest land (in hectares)	150	-	-	45	35	230
Plantation of saplings	30	45	21	40	06	142
Fodder seed sowing	34	06	08	05	02	55
8 Drainage line treatment						
Agave planting, gully plugs and boulder bunds (in hectares)	81	164	125	45	35	450
Earthen bund	01	01	01	01	01	05
Cattle pond	01	01	01	01	02	06
9 Financial support (in Rs)	192,496	286,095	314,197	563,341	336,853	1,692,982
	(11.37)	(16.90)	(18.56)	(33.27)	(19.90)	(100)

Note: Figures in parentheses represent percentages

Annexe B: Socio-Economic Background of the Respondents

Socio-economic indicators	Boyina-varapally	Oorama-digapally	Hirechen hally	Gangena hally	Vyapala pally	Total
Sex						
Male	19	17	17	43	29	125 (70.62)
Female	07	06	08	18	13	52 (29.38)
Total	26	23	25	61	42	177 (100)
Caste						
SC/ST	-	23	20	31	25	99 (55.93)
BC	26	-	-	-	-	26 (14.69)
Others	-	-	05	30	17	52 (29.38)
Educational level						
Illiterate	20	19	15	40	20	114 (64.40)
Primary	05	04	06	10	15	40 (22.60)
High School	01	-	04	07	05	17 (9.61)
PUC & above	-	-	-	04	02	06 (3.39)
Occupation						
Agriculture	22	11	25	48	38	144 (81.36)
Agricultural labour	-	12	-	09	04	25 (14.12)
Weaving	04	-	-	-	-	04 (2.26)
Artisan	-	-	-	04	-	04 (2.26)
Income levels (in Rs)						
Up to 3,000	10	11	09	21	13	64 (36.16)
3,001-4,500	05	02	03	15	10	35 (19.77)
4,501-6,000	05	01	05	09	09	29 (16.38)
6,001-8,000	04	06	05	08	05	28 (15.82)
8,001-10,000	01	02	03	03	03	12 (6.78)
10,001 & above	01	01	-	05	02	09 (5.09)
Landholding						
Landless	01	07	04	08	05	25 (14.13)
Marginal farmer	10	03	10	27	09	59 (33.33)
Small farmer	15	13	06	14	18	66 (37.29)
Medium & large farmer	-	-	05	12	10	27 (15.25)
Assets						
House	26	23	25	61	42	177 (100)
Drought animals	52	02	26	48	43	171 (14.20)
Milch animals	24	13	41	74	73	225 (18.69)
Small ruminants	176	50	100	210	272	808 (67.11)
TV/Radio	08	07	9	13	15	52 (29.38)
Smokeless <i>chullas</i> /LPG stove	26	12	20	38	25	121 (68.36)

Note: Figures in parentheses represent percentages

Annexe C: Membership in Village Institutions across Caste and Size Class

Social Category and Size Class	Boyina-varapally	Oorama-digapally	Hirechen hally	Gangena hally	Vyapala pally	Total
Caste						
SC/ST	-	23(100)	20(75.0)	31	25	99(55.93)
Backward caste	26(100)	-	-	-	-	26(14.69)
Other castes	-	-	05(25.0)	30	17	52(29.38)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)
Size class						
Landless	01(03.84)	07(30.43)	04(16.0)	08(13.11)	05(11.90)	25(14.12)
Marginal farmer	10(38.46)	03(13.04)	10(40.0)	27(44.26)	09(21.43)	59(33.33)
Small farmer	15(57.70)	13(56.53)	06(24.0)	14(22.96)	18(42.86)	66(37.29)
Medium and large farmer	-	-	05(20.0)	12(19.67)	10(23.81)	27(15.26)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)

Note: Figures in parentheses represent percentages

Annexe D: Payment of Membership Fee (in Rs.) by the Respondents - by Social Category and Size Class

Social Category and Size Class	Boyina-varapally Amount Paid (in Rs)	Oorama-digapally Amount Paid (in Rs)	Hirechen hally Amount Paid (in Rs)	Gangena hally Amount Paid (in Rs)	Vyapala pally Amount Paid (in Rs)	Total Aomunt Paid (in Rs)
Caste						
SC/ST	-	185(23)	200(20)	280(31)	225(25)	890(99)
Backward caste	260(26)	-	-	-	-	260(26)
Other castes	-	-	50(05)	280(30)	170(17)	500(52)
Total	260(26)	185(23)	250(25)	560(61)	395	1650(177)
Size class						
Landless	05(01)	60(07)	25(04)	70(08)	40(05)	200(25)
Marginal farmer	80(10)	30(03)	90(10)	270(27)	90(09)	560(59)
Small farmer	140(15)	120(13)	60(06)	130(14)	180(18)	630(66)
Medium & large farmer	-	-	50(05)	120(12)	100(10)	270(27)
Total	225(26)	200(23)	225(25)	590(61)	410(42)	1650(177)

Note: Figures in parentheses represent no. of respondents

Annexe E: Participation of Respondents in Grama Sabha Meetings - Social Category and Size Class

Sl. No.	Opinion of the respondents	By Social Category				By size class				
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
1 Bovinavarapally										
A	Yes	-	21	-	21(80.78)	01	08	12	-	21(80.78)
B	No	-	05	-	05(19.22)	-	02	03	-	05(19.22)
Total		-	26	-	26(100)	01	10	15	-	26(100)
2 Ooramadigapally										
A	Yes	20	-	-	20(86.96)	07	03	10	-	20(86.96)
B	No	03	-	-	03(13.04)	-	-	03	-	03(13.04)
Total		23	-	-	23(100)	07	03	13	-	23(100)
3 Herichenahally										
A	Yes	20	-	02	22(88.00)	04	07	06	05	22(88.00)
B	No	-	-	03	03(12.00)	-	03	-	-	03(12.00)
Total		20	-	05	25(100)	04	10	06	05	25(100)
4 Gangenahally										
A	Yes	25	27	-	52(85.25)	08	22	12	10	52(85.25)
B	No	06	03	-	09(14.75)	-	05	02	02	09(14.75)
Total		31	30	-	61(100)	08	27	14	12	61(100)
5 Vyalapally										
A	Yes	22	-	14	36(85.71)	05	07	15	09	36(85.71)
B	No	03	-	03	06(14.29)	-	02	03	01	06(14.29)
Total		25	-	17	42(100)	05	09	18	10	42(100)
6 Grand total										
A	Yes	87	48	16	151	25	47	52	24	151
		(49.15)	(27.12)	(9.61)	(85.31)	(14.12)	(46.55)	(29.94)	(13.56)	(85.31)
B	No	12	08	06	26	-	12	11	03	26
		(6.78)	(4.52)	(2.82)	(14.69)		(6.78)	(6.21)	(1.70)	(14.69)

Legend: BC- Backward Caste, OC- Other Caste, LL- Landless, SF- Small Farmer, M/LF - Medium and Large Farmer.

Note: Figures in parentheses indicate percentage to the total

Annexure F: Respondents Giving Suggestions in Grama Sabha Meetings

Sl. No.	Opinion of the respondents	By Social Category				By size class				
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
1	Bovinavarapally									
A	Yes	-	15	-	15(57.69)	01	06	08	-	15(57.69)
B	No	-	11	-	11(42.31)	-	04	07	-	11(42.31)
	Total	-	26	-	26(100)	01	10	15	-	26(100)
2	Ooramadigapally									
A	Yes	15	-	-	15(65.22)	02	03	10	-	15(65.22)
B	No	08	-	-	08(34.78)	05	-	03	-	08(34.78)
	Total	23	-	-	23(100)	07	03	13	-	23(100)
3	Herichenahally									
A	Yes	12	-	03	15(60.0)	01	07	03	04	15(60.0)
B	No	08	-	02	10(40.0)	03	03	03	01	10(40.0)
	Total	20	-	05	25(100)	04	10	06	05	25(100)
4	Gangenhally									
A	Yes	15	19	-	34(55.74)	02	12	10	10	34(55.74)
B	No	15	12	-	27(44.26)	06	15	04	02	27(44.26)
	Total	30	31	-	61(100)	08	27	14	12	61(100)
5	Vyalapally									
A	Yes	16	-	14	30(71.43)	02	07	14	07	30(71.43)
B	No	09	-	03	12(28.57)	03	02	04	03	12(28.57)
	Total	25	-	17	42(100)	05	09	18	10	42(100)
6	Grand total									
	Yes	58	34	17	109	08	35	45	21	109
		(32.76)	(19.20)	(9.60)	(61.58)	(4.52)	(19.77)	(25.42)	(11.86)	(61.58)
	No	40	23	05	68	17	24	21	06	68
		(67.24)	(12.99)	(2.82)	(38.42)	(9.60)	(13.56)	(11.86)	(3.39)	(38.42)

Legend: BC- Backward Caste, OC- Other Caste, LL- Landless, SF- Small Farmer, M/LF - Medium and Large Farmer.

Note: Figures in parentheses indicate percentage to the total

Annexe G: Employment Generation per Month - by Social Category, Class and Hamlet-Wise

Sl. No.	Hamlet/range of wage work/ days	By Social Category				By size class				
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
1 Bovinavarapally										
A	01-10 Days	-	-	-	-	-	-	-	-	-
B	11-20 Days	-	23	-	23	-	08	15	-	23
			(88.46)		(88.46)		(80.0)			(88.46)
C	21-30 Days	-	03	-	03	01	02	-	-	03
			(11.54)		(11.54)	(100.0)	(20.0)			(11.54)
	Sub-Total	-	26	-	26	01	10	15	-	26
			(100)		(100)	(100)	(100)	(100)		(100)
2 Ooramadigapally										
A	01-10 Days	-	-	-	-	-	-	-	-	-
B	11-20 Days	20	-	-	20	04	03	13	-	20
		(86.96)			(86.96)	(57.14)	(100)	(100)		(86.96)
C	21-30 Days	03	-	-	03	03	-	-	-	03
		(13.04)			(13.04)	(42.86)				(13.04)
	Sub-Total	23	-	-	23	07	03	13	-	23
		(100)			(100)	(100)	(100)	(100)		(100)
3 Herechenahally										
A	01-10 Days	-	-	-	-	-	-	-	-	-
B	11-20 Days	15	-	05	20	-	10	06	04	20
		(75.0)			(80.0)					(80.0)
C	21-30 Days	05	-	-	05	04	-	-	01	05
		(25.0)			(20.0)					(20.0)
	Sub-Total	20	-	05	25	04	10	06	05	25
		(100)		(100)	(100)	(100)	(100)	(100)	(100)	(100)
4 Gangenahally										
A	01-10 Days	-	-	05	05	-	-	-	05	05
				(16.67)	(8.20)				(41.67)	(8.20)
B	11-20 Days	25	-	25	50	07	22	14	07	50
		(80.65)		(83.33)	(81.96)	(87.5)	(81.48)	(100)	(58.33)	(81.96)
C	21-30 Days	06	-	-	06	01	05	-	-	06
		(19.35)			(9.84)	(12.5)	(18.52)			(9.84)
	Sub-Total	31	-	30	61	08	27	14	12	61
		(100)		(100)	(100)	(100)	(100)	(100)	(100)	(100)

Cont.....

5 Vyapalhally										
A	01-10 Days	-	-	-	-	-	-	-	-	-
B	11-20 Days	20 (80.0)	-	15 (88.24)	35 (83.33)	-	09 (100.0)	18 (100.0)	08 (80.0)	35 (83.33)
C	21-30 Days	05 (20.0)	-	02 (11.76)	07 (16.67)	05 (100.0)	-	-	02 (20.0)	07 (16.67)
Sub-Total		25 (100)	-	17 (100)	42 (100)	05 (100)	09 (100)	18 (100)	10 (100)	42 (100)

Legend: BC- Backward Caste, OC- Other Caste, LL- Landless, SF- Small Farmer, M/LF - Medium and Large Farmer.

Note: Figures in parentheses indicate percentage to the total

Annexe H: Respondents Expressing Satisfaction on the Benefits* Accrued from the Works Executed by the Sub-Committees

Social category and size class	Boyina-varapally	Oorama-digapally	Hirechen hally	Gangena hally	Vyapala pally	Total
Caste						
SC/ST	-	23(100)	20(100)	31(100)	25(100)	99(100)
Backward caste	26(100)	-	-	30(100)	-	56(100)
Other castes	-	-	05(100)	-	17(100)	22(100)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)
Size class						
Landless	01(100)	07(100)	04(100)	08(100)	05(100)	25(100)
Marginal farmer	10(100)	03(100)	10(100)	27(100)	09(100)	59(100)
Small farmer	15(100)	13(100)	06(100)	14(100)	18(100)	66(100)
Medium and large farmer	-	-	05(100)	12(100)	10(100)	27(100)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)

*Benefits accrued: protection of *gomala*; plantation activities; drainage line treatment; water harvesting structures; employment generation; preventing migration.

Note: Figures in parentheses indicate percentage to the total.

Annexe I: Respondents Expressing Satisfaction on the Quality of Works Executed by the Sub-Committees

Social category and size class	Boyina-varapally	Oorama-digapally	Hirechen hally	Gangena hally	Vyapala pally	Total
Caste						
SC/ST	-	23(100)	20(100)	31(100)	25(100)	99(100)
Backward caste	26(100)	-	-	30(100)	-	56(100)
Other castes	-	-	05(100)	-	17(100)	22(100)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)
Size class						
Landless	01(100)	07(100)	04(100)	08(100)	05(100)	25(100)
Marginal farmer	10(100)	03(100)	10(100)	27(100)	09(100)	59(100)
Small farmer	15(100)	13(100)	06(100)	14(100)	18(100)	66(100)
Medium and large farmer	-	-	05(100)	12(100)	10(100)	27(100)
Total	26(100)	23(100)	25(100)	61(100)	42(100)	177(100)

Note: Figures in parentheses indicate percentage to the total.

Annexe J: Respondents' Opinion on Whether Their Hamlet Benefited from Grama Panchayat Programmes

Sl. No.	Opinion of the households	By Social Category				By size class				Total
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	
1 Bovinavarapally										
A	Yes	-	19	-	19(73.08)	-	07	12	-	19(73.08)
B	No	-	07	-	07(21.92)	01	03	03	-	07(21.92)
	Total	-	26	-	26(100)	01	10	15	-	26(100)
2 Ooramadigapally										
A	Yes	11	-	-	11(47.83)	03	02	06	-	11(47.83)
B	No	12	-	-	12(52.17)	04	01	07	-	12(52.17)
	Total	23	-	-	23(100)	07	03	13	-	23(100)
3 Herichenahally										
A	Yes	15	-	03	18(72.00)	02	08	05	03	18(72.00)
B	No	05	-	02	07(28.00)	02	02	01	02	07(28.00)
	Total	20	-	05	25(100)	04	10	06	05	25(100)
4 Gangenahally										
A	Yes	28	-	19	47(77.05)	07	18	11	11	47(52.46)
B	No	03	-	11	14(22.95)	01	09	03	01	14(47.54)
	Total	31	-	30	61(100)	08	27	14	12	61(100)
5 Vyalapally										
A	Yes	14	-	13	27(64.29)	02	05	12	08	27(64.29)
B	No	11	-	04	15(37.71)	03	04	06	02	15(37.71)
	Total	25	-	17	42(100)	05	09	18	10	42(100)

Legend: BC- Backward Caste, OC- Other Caste, LL- Landless, SF- Small Farmer, M/LF - Medium and Large Farmer.

Note: Figures in parentheses indicate percentage to the total

Annexe K: Respondents' Opinion on Whether Involvement of Panchayats Results in Increase in Transparency and Accountability on Watershed Committee Activities Implemented by the Sub-Committees

Sl.	Opinion of the	By Social Category				By size class				
		No. respondents	SC/ST	BC	OC	Total	LL	MF	SF	M/LF
1	Bovinavarapally									
A	Yes	-	20	-	20(76.93)	-	07	13	-	20(76.93)
B	No	-	06	-	06(23.07)	01	03	02	-	06(23.07)
	Total	-	26	-	26(100)	01	10	15	-	26(100)
2	Ooramadigapally									
A	Yes	17	-	-	17(73.91)	05	02	10	-	17(73.91)
B	No	06	-	-	06(26.09)	02	01	03	-	06(26.09)
	Total	23	-	-	23(100)	07	03	13	-	23(100)
3	Herichenahally									
A	Yes	14	-	05	19(76.00)	03	07	05	04	19(76.00)
B	No	06	-	-	06(24.00)	01	03	01	01	06(24.00)
	Total	20	-	05	25(100)	04	10	06	05	25(100)
4	Gangenhally									
A	Yes	21	-	26	47(77.05)	05	20	12	10	47(77.05)
B	No	10	-	04	14(22.95)	03	07	02	01	14(22.95)
	Total	31	-	30	61(100)	08	27	14	11	61(100)
5	Vyalapally									
A	Yes	19	-	14	33(78.57)	04	07	15	07	33(78.57)
B	No	06	-	03	09(21.43)	01	02	03	03	09(21.43)
	Total	25	-	17	42(100)	05	09	18	10	42(100)

Legend: BC- Backward Caste, OC- Other Caste, LL- Landless, SF- Small Farmer, M/LF - Medium and Large Farmer.

Note: Figures in parentheses indicate percentage to the total

Annexe L: Assets Particulars of the Sample Respondents across Caste and size class [%]

Sl. No.	Assets	By Caste			By size class					
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
I Bhanukota										
(a)	House	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(b)	Drought	(01)	(03)	(03)	(07)	-	-	(03)	(04)	(07)
	Animals	9	10	75	15.6			13	36.3	15.6
(c)	Milch Animals	(02)	(07)	(04)	(13)	-	(01)	(04)	(08)	(13)
		18.2	23.3	100	28.9		10	17.3	72.2	28.9
(d)	Small ruminants	-	(04)	-	(04)	-	-	(01)	(03)	(04)
			13.3		8.9			4.3	27.2	8.9
Total		(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		24.4	66.6	9	100	2.2	22.2	51.1	24.5	100
II Elakuntla										
(a)	House	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(b)	Drought	-	(11)	(12)	(23)	-	-	(06)	(17)	(23)
	Animals		47.8	92.3	57.5			42.9	70.8	57.5
(c)	Milch Animals	-	(14)	(12)	(26)	-	-	(08)	(18)	(26)
			60.8	92.3	65			57.1	75	65
(d)	Small ruminants	-	(12)	(03)	(15)	(01)	-	(03)	(11)	(15)
			52.2	23.1	37.5	100		21.4	45.8	37.5
Total		(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		10	57.5	32.5	100	2.5	2.5	35	60	100

Figures in parentheses were actual sample respondents

**Annexe M: The Number of Days of Wage Employment
Generated per Month under WSDP across Caste and Size
Class[%].**

Sl. No.	Range of wage work/ days	By Caste				By size class				
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
1 Bhanukota										
(a)	00 -0.5 days	-	-	-	-	-	-	-	-	-
(b)	06-10 days	(10) 90.9	(27) 96.4	(01) 33.3	(38) 90.5	(01) 100	(07) 70	(22) 95.7	(08) 100	(38) 90.5
(c)	11-15 days	-	-	-	-	-	-	-	-	-
(d)	16-20 days	-	-	-	-	-	-	-	-	-
(e)	21-25 days	-	-	-	-	-	-	-	-	-
(f)	26-30 days	(01) 9.1	(01) 3.6	(02) 66.7	(04) 9.5	-	(03) 30	(01) 4.3	-	(04) 9.5
Total		(11) 100	(28) 100	(03) 100	(42) 100	(01) 100	(10) 100	(23) 100	(08) 100	(42) 100
2 Elakuntla										
(a)	00 -0.5 days	-	-	-	-	-	-	-	-	-
(b)	06-10 days	(03) 75	(18) 90	(10) 100	(31) 91.2	-	-	(13) 99.9	(18) 100	(31) 91.2
(c)	11-15 days	-	-	-	-	-	-	-	-	-
(d)	16-20 days	-	-	-	-	-	-	-	-	-
(e)	21-25 days	-	-	-	-	-	-	-	-	-
(f)	26-30 days	(01) 25	(02) 10	-	(03) 8.8	(01) 100	(01) 100	(01) 7.1	-	(03) 8.8
Total		(04) 100	(20) 100	(10) 100	(34) 100	(01) 100	(01) 100	(14) 100	(18) 100	(34) 100

Note: Figures in parentheses were actual sample respondents.

Annexe N: Respondents' Views on the Benefits Accrued from the Works by RDT by Caste and Size Class[%].

Sl. No.	Work carried out	By Caste			By size class					
		SC/ST	BC	OC	Total	IL	MF	SF	M/LF	Total
1 Bhanukota										
(a)	Moisture and water conservation	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(b)	Conservation of soil and stoppage of its erosion	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(c)	Promotion of horticulture to improve the land	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(d)	Afforestation in the watershed region	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(e)	Creation of employment opportunities to the villagers as a result of the above activities	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
(f)	Other works and activities (Agriculture, IGA, etc.)	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
	Total	(11)	(30)	(04)	(45)	(01)	(10)	(23)	(11)	(45)
		100	100	100	100	100	100	100	100	100
2. Elakuntla										
(a)	Moisture and water conservation	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(b)	Conservation of soil and stoppage of its erosion	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(c)	Promotion of horticulture to improve the land	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(d)	Afforestation in the watershed region	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(e)	Creation of employment opportunities to the villagers as a result of the above activities	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
(f)	Other works and activities (Agriculture, IGA, etc.)	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100
	Total	(04)	(23)	(13)	(40)	(01)	(01)	(14)	(24)	(40)
		100	100	100	100	100	100	100	100	100

Note: Figures in parentheses were actual sample respondents.

Annexe O : Respondents' Suggestions to Make WDC Run More Efficiently - By Caste and Size Class [%].

Sl. No.	Suggestion	By Caste				By size class				
		SC/ST	BC	OC	Total	LL	MF	SF	M/LF	Total
1 Bhanukota										
(a)	Promotion of area specific oriented works / activities	(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
(b)	Watershed plus activities	(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
(c)	Follow up of works and activities	(11) 100	(29) 96.7	(04) 100	(44) 97.8	-	(10) 100	(23) 100	(11) 100	(44) 97.8
(d)	Run the WSDP through potential NGOs involvement	(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
(e)	Complex of village institutions	(09) 81.9	(23) 76.7	(03) 75	(35) 77.8	(01) 100	(10) 100	(18) 78.3	(08) 72.7	(37) 82.2
Total		(11) 100	(30) 100	(04) 100	(45) 100	(01) 100	(10) 100	(23) 100	(11) 100	(45) 100
2 Elakuntla										
(a)	Promotion of area specific oriented works / activities	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
(b)	Watershed plus activities	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
(c)	Follow up of works and activities	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
(d)	Run the WSDP through potential NGO's involvement	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
(e)	Complex of village institutions	(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100
Total		(04) 100	(23) 100	(13) 100	(40) 100	(01) 100	(01) 100	(14) 100	(24) 100	(40) 100

Note: Figures in parentheses were actual sample respondents.

**Annexe P: Physical and Financial Details of Expenditure on
Various Activities from 29-7-1999 to 31-3-2004**

Sl. no.	Programmes	Total	
		Physical	Financial (in Rs.)
1	Soil and moisture conservation	567.88 ha.	1,274,126
2	Horticulture development	161.37	273,562
3	Ground-water improvement	3 C.D 2 C.W.	207,627
4	Pasture development		
	a) Avenue plantation		
	b) Barren hill afforestation (BHA)	2 KM 10 Ha	98,739
	c) Farm forestry	567.88 Ha	8,131
	d) Agave plantation	6,860 no.	1,758
	e) Grazing development in the village	4,800	1,720
	f) Coconut plantation	550 no.	150
	Bio-gas	3 nos.	-
	Smokeless chullas	40 nos.	-
	P.T.D. plots	14 nos	2,619
	Eenati gorthulu (ploughs)	37 nos.	15,725
	Fodder plots	39 nos.	1,733
	Veterinary camps	2 nos.	1,650
	Dairy development	23 nos.	7,820
	Paper bill	51 Months	3,930
	Xerox		982
	Printing charges	3 nos.	890
	Meetings	7	4,059
	Drinking water facility	1	30,662
	Grama sabha	9	10,439
	Trainings	13	6,042
	Wall paintings		8,204
	Entry boards	2	2,805
	Agarbathi training	1	4,042
	Photos and visitors' programmes		2,064
	Bank charges		188
	Total		2,007,154

Annexe Q: Watershed Development Fund (WDF)

Sl. no.	Collection of contributions/ Name of the activity	Total amount received (in Rs.)	Amount invested (in Rs.)
1	Collection of contributions up to 1-10-2003	162,779	-
2	Horticulture development- 2003	990	-
3	Check walls (2 nos.)	1,095	-
4	Farmers' contribution	550	-
5	Bank interest	2,841	-
	Total	5,476	-
1	AF received from CW		1,000
2	Chinta nischinta		-
3	Check-dam repayment	168,255	3,886

Note: The balance amount in the WDF since inception 31-3-2004 to 31-04-2004 was Rs.1, 63,369

Annexe R: Details of Employment Generation (from 1-4-03 to 31-3-04)

Activity	No of labourers	No. of man days	Total no.of man days	Amount (in Rs.)		
1	45	35	162	414	185,497	10,912
2			72	2,135	64,979	2,200
3			75	459	21,178	
4			150	210	7,840	839
5			9	96	3,840	312
6			5	24	960	24
7			2	6	261	
8			2	4	205	09
9			1	1	-	03
10			6	15	-	20
11			4	4	-	04
			Total	7,095	284,760	14,323

Annexe S : Details of Grants Received from the Government

Sl. no.	Programmes/ activity	Scheme	No. of beneficiaries	Amount invested		
				Kind terms		Cash (in Rs.)
				Quantity	Value (in Rs.)	
1	Renovation of spring channels	Drought relief	393	18.75 qtl.	15,000	4,000
2	Drinking water pipe line to SC colony	RWS	15	-	10,000	-

Annexe T: Personnel Employed in the Watershed Village

Sl. no.	Status/designation	No. of times visited the watershed village	No. of watershed villages covered by the present employee.
1	Ecology area team leader (ECO, ATL)	96	13
2	Field supervisor	150	6
3	Engineering supervisor	160	7
4	Socio technical organizer (STO)	Village is the headquarters of the employee	1
5	Women community Organizer (W.C.O)	72	13
6	SMS (Agrl)	18	27
7	SMS (RWHS)	12	27
8	WSTL	10	27
9	Technical director	5	91
10	Director RDT/AF (Ecology)	3	91

Annexe U: Village Population (Bhanukota Watershed Village)

Caste	Female	Male	Total
Scheduled Caste	242	263	505
Scheduled Tribe	05	06	11
Backward Caste	477	505	982
Other Castes	45	52	97
Total	769	826	1,595

Annexe V: Land Particulars

Land particulars	Bhanukota 'A' (in hectares)	Bhanukota 'B' (in hectares)	Total (in hectares)
Geographic area	637	673	1,310
Irrigated land	54	66	120
Cultivated land	500	589	1,089
Uncultivated land	25	6	31
Endowment land	08	8	16
Waste land	50	4	54
Total land	637	673	1,310
Families having land (Nos.)			334
Landless families (Nos.)			1

Annexe W: Water Resources

Sl.no.	Resource	No.
1	Tanks	01
2	Ponds	04
3	Wells	69 (four were working)
4	Bore wells	60
5	Bore wells with electricity services	60
6	Transformers	06
7	Drinking water hand pumps	08 (Six were working)

Annexe X: Organisations/Institutions Working in Bhanukota Village.

Sl. no.	Name of the Institution/Others	No.
1	SHG's DWCRA groups	21
2	Disabled group	01
3	Temple	08
4	Community schools (RDT School)	01
5	Govt. upper primary school	01
6	Vana Samrakshan Samithi (VSS)	01
7	Village Education Committee (VEC)	01
8	BASIX Working Committee	01
9	Grama Panchayat (G.P)	01
10	Watershed Committees	02
11	User groups/ Beneficiary groups	01
12	Village Organisation (V.O)	01
13	Community Development (Committee) (CDC-RDT)	01
14	Anganwadi Centres (ICDS)	01
15	Raitha Mithra Groups (Farmer's Friendly Groups)	-

**Annexe Y: Activity-Wise Achievements: Physical and Financial
Details of Watershed Works. (Since the Inception of the
Programme to 31-03-04)**

Sl. No.	Activity	Physical	Financial (in Rs)
Banukota 'A'			
1	Percolation tank	2 No.s	525,778
2	Horticulture improvement/ (Mango, Tamarind promotion and Sapota)	6,544 No.s	261,715
Total Amount (in Rs)			779,417
Banukota 'B'			
1	Percolation tank	2 Nos.	96,956
2	Chinata nischinta	8 Ha	54,141
3	Stone/Pebble bunding (Drought work 2003)	83.88 Ha	169,075
4	Horticulture improvement (Mango, Tamarind, and Sapota)	3,811 No.s.	48,503
Total amount (In Rs.)			368,675

Annexe Z: Employment Generation (Man-days)

Sl. No.	Activity	No. of labourers		No. of man days	From 1-4-03 to 31-3-04	
		Male	Female		No. of man days	Total amount (in Rs.)
1	Pullappa kunta	80	30	90	2,240	16,800
2	Horticulture improvement	20	10	80	590	34,244
3	Chinta to nischinta	04	-	365	1,402	27,600
4	Stone/pebble bunding (Drought Relief 2003)	100	60	20	3,140	169,075
Total		204	100	555	7,372	247,719

Annexe Z.1: Details of Meetings Held in the Watershed Village

Sl. no.	Group/ organisation	No. of meetings		Percentage of attendance	
		1-4-03 to 30-9-03	1-10-03 to 31-3-04	1-4-03 to 30-9-03	1-10-03 to 31-3-04
1	SHGs	6	6	85	90
2	Labour group	1	1	50	70
3	User group	1	1	50	75
4	VDC	2	2	50	75
5	WSC	12	10	60	70
6	Grama Sabha	01	01	50	60
7	VEC	04	02	-	-

Note: WDC meetings - 7th & 25th every month, VO meetings - every month 11th. (No. of meetings from 1-4-03 to 31-3-4 were 22, VDC meetings - every month on 10th , Grama Sabha meetings- once in 6 months.

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