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in India

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This document represents part of the author's study programme while at the Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

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Abstract

The state of Kerala is known for being endowed with several water bodies like rivers, ponds and network of backwaters and lagoons. Moreover, it is flanked by the Arabian Sea on its west and the Western Ghats mountains on the east. The smaller catchment of rivers and streams needs to be maintained sustainably which has led to the implementation of the Integrated Watershed Management Programme (IWMP) and the Western Ghats Development Programme (WGDP). For about ten years and more, it has been carried out via a participatory approach through the local governance system better known as 'panchayathi raj system'. This was done so that the community would play a role in the identification, formulation and implementation of the activities in the watershed area.

The choice of using qualitative methods predominantly can analyse the role of community, local government representatives and the NGOs involved in the programme. A two-case study comparative analysis is carried out, to understand the similarities between their governance structure and the level of engagement among the beneficiaries. It was observed that the community had a minuscule role in the programme as many of them have moved away from agriculture and work in the private sector. They neither could relate or understand the issues of the region when it came to formulation of activities that would lead to a livelihood for the community.

Relevance to Development Studies

The research has tried to analyse the participatory approach that has been included into the watershed programmes in Kerala, India. It contributes to the academic research on how the implementation of the project has performed over the years and provides an insight for academicians, practitioners and policy makers to see the strengths and deficits of the policy. It has shown the possibilities and drawbacks of the adoption of this approach in these programmes across the country and especially in Kerala.

Keywords

Kerala, Watershed Management, Participation, Accountability, Governance, Decentralisation.

1 INTRODUCTION

The word ‘participation’ has become a buzzword in watershed projects in general. Terms like bottom-up approach, collective action, community driven development and decentralised governance are suggestive of participatory nature (Joy et al,2004:91). This concept is being observed in the watershed programmes in the state of Kerala. In 1996, Kerala embarked on an extraordinary experiment in local planning. At that time, it was known as “People’s Campaign for the Ninth Plan”. Here, “Ninth Plan” refers to India’s ninth 5-year plan in which each state within national federation decides its own annual plan. The people’s part referred to the decision to devolve 35% of the state development budget, to local communities, who would determine and implement their priorities (Frank and R.W,2007:130). Around the same time, there was a proposal from the government that people should contribute 5-10% towards soil/water conservation works or to building towards a plantation/ orchard. Farmers contribution was based on the direct benefits derived from the activities carried out in the watershed. The institution of *gram panchayat* (village councils) which came into being in Kerala in 1953 (long before Parliament enacted the enabling Act in 1992) gave concrete shape to this revolutionary idea. Members of councils elected from among village elders were empowered by this move to decide and implement development schemes for the welfare of an entire village. They usually undertook works like laying and maintaining village roads, establishing drinking water projects, running libraries and nursery schools and so on. “Democratic decentralization can be defined as the noted aspect of participatory governance agenda and is associated with institutionalization of participation through regular elections, council hearings and more recently, participatory budgeting.” (Hickey and Mohan,2004: 161)

Kerala has been part of national and international circuits in terms of its performance in key areas of human development especially education, health and social welfare policies. But the improvements in these sectors have resulted in a low economic growth in the state, which has baffled many economists. Amartya Sen in 2001 has stated that – “from Kerala’s experience and from objective indicators of what it has achieved in social, economic and political fields through education, has been spectacular, and the rest of India had much to learn”. In terms of lauding the state’s human development, he had also added – “Kerala, despite its low-income level has achieved more than even some of the most admired high growth economies as South Korea” (Sen,1997)

The ‘Kerala development model’ is a familiar brick to most economic development experts the world over. The reason for the wholehearted approbation of the distinguished professor was that the tiny state at the southern tip of India marked high development indices in many sectors like education especially among girls, healthcare, high life expectancy, low infant mortality, low birth rate and so on even while its per capita income remained moderate on account of poor industrialization and job opportunities. He said the Kerala model proved that economic development was not a pre-requisite to make progress in social sectors.

Table 1.1: Major Social Development Indices - Kerala, India and Select Countries

Index	Kerala	India	Other Countries
Literacy	93.91	74.04	China- 92.2, Chile-95.7, Bangladesh-56.8, Pakistan-54.9, United States-99, N. Korea- 99
Female Literacy	91.98	65.46	China-88.5, Chile-95.6, Bangladesh-52.2, Pakistan-30.3, United States-99, Korea-99
Male Literacy	96.02	82.14	China-96, Chile-95.8, Bangladesh-52.2, Pakistan-68.6, United States-99, N. Korea-99
Primary Education Enrollment	85.59	92	China-87, Chile-95, Bangladesh-NA, Pakistan- 69, United States-96, Bolivia-88, N. Korea-99
Infant Mortality Rate (2005-2010)	11	46.07	China-15.62, Chile-7.4, Bangladesh-48.99, Pakistan-61.27, United States-6, N. Korea- 4.08
Expectancy of Life	68	63.20	China-84.41, Chile-77.70, Bangladesh-60.25, Pakistan-64.57, United States-78.37, N. Korea-63.81
Birth rate (According to OECD,2011)	14.60	21.8	China-11.9, Chile-14.5, Bangladesh-19.2, Pakistan-27.5, United States-12.7, N. Korea- 14.4
Death Rate (According to OECD,2011)	6.60	7.1	China-7.1, Chile-5.9, Bangladesh-5.6, Pakistan-7.3, United States-8.1, Korea-9.0
Human Development Index (estimates for 2013)	0.920	0.554	China-0.882, Chile-0.819, Bangladesh-0.515, Pakistan- 0.515, United States- 0.937, N. Korea- 0.766
Sex Ratio – males/females	0.923	1.08	China-1.06, Chile-1.05, Bangladesh-0.93, Pakistan-1.09, United States-0.97, Korea-0.95
GDP (PPP) per capita	3560	3650	China-8400, Chile-17270, Bangladesh-1777, Pakistan-2745, United States-48112, S.Korea- 29834

Source – (Kumar and SK, 2013:21)

Kerala is in the southwest coast of India and is considered as the land of waters as it receives an average rainfall of about 3000mm per year. The state has a large number of reservoirs like ponds, rivers, chain of backwaters and lagoons. Despite this, the state has been facing acute water scarcity for both irrigation and drinking for the past decade. Both the Ministries of Agriculture and Rural Development have implemented watershed projects for more than a decade that intended to generate sustainability but failed due to the failure of government agencies to involve the community (Vishnudas et al,2005). The district chosen here is that of Ernakulam, it borders the district of Thrissur in the north, Idukki is in the East while Alapuzha and Kottayam in the south and the Lakshadweep sea in the west. (Districts – Government of Kerala,India).

1.1 Watershed Context

Both the watersheds taken for analysis is planned along the lines of 'Participatory Watershed based Integrated Development for Resource Management' (PAWIDREM). "A watershed is an area from which runoff from precipitation flows to a common point to join a lake, river or ocean and ground water aquifer. With respect to size, a watershed is the smallest in the list of names used for drainage areas: river basins, catchments, sub-catchments and watersheds. It varies from a few square meters to hundreds of square kilometers." (Vishnudas, S., Savenije, H.H. and Van Der Zaag, P., 2005:1). Watershed development and management is an integral part of the community and involves the amalgamation of technology within a natural boundary that would allow for the optimum development of land, water and plant resources that would help in meeting the basic requirements of the people in a sustainable manner. The integrated watershed development and management is the most effective solution to many disasters like floods, drought etc (Watershed Management Practices in India,2002:1). "Managing watersheds for rural development in developing countries is a relatively new 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)

1.1.1 Main Objectives of watershed Management

- i) Utilizing the available land to its maximum productivity by adopting suitable measures with respect to land capability and in the process avoid environmental degradation.
- ii) Maximizing productivity per unit area and per unit of water to meet the food and livelihood requirements of the community in the watershed area.
- iii) Conserving rain, so that it helps in increasing the ground water level, so that it is available for the rest of the year.
- iv) Application of soil and water conservation measures to prevent soil erosion.
- v) Draining excess water to prevent flooding near the watershed.
- vi) Maximising water storage capacity in the watershed, through soil and storage structures.
- vii) Improving the infrastructure in the watershed area.
- viii) Improving the income and status of the community in this area. (Watershed Management Practices in India,2002:4)

The change in policy of watersheds during the 1994-95, did bring in more importance to participation of the community and their role in maintaining the resources in the watershed area. With the already robust local governance structure of Kerala, its relative success over the years will help in the implementation of the integrated watershed programmes. As most of the watershed programmes have used the organizational structure of the local governance system of Kerala.

1.2 Research Objectives

The main research objective is to understand the extent of public participation in the watershed management programmes.

The focus of this research is to identify whether the local governance structure of the Panchayati raj, helps in carrying out these programmes. Both the programmes that I have chosen to study have been using the three-tier structure and have adapted it into two distinct ways to implement it on the field. The idea is to understand if this kind of participation by the beneficiaries is feasible in such programmes in this case.

1.3 Problem Statement

The floods that hit Kerala in 2018 was testimony to the fact that the water resources in the state was not monitored efficiently (India Today,2018). The selected research site – Ernakulam district was heavily affected during this period especially the low-lying areas close to the waterbodies. The infrastructure built along the canals, lagoons and backwaters were not supervised over the years which had led to its decimation. The watershed areas that held proximity to these water bodies were also left unattended. The decline in agriculture and leaving these lands fallow allowed mushrooming of weeds and parasitic plants that further contributed to the decline in the productivity of soil. It is in this backdrop that the watershed programmes were executed with the idea of involving the community. The role of local governance structure has been made popular through the people's movement and attained lasting results in the provision of basic facilities in the villages.

The programmes have been implemented through the three-tier structure of the Panchayati raj system that in some cases have made the process cumbersome and complicated for the people of the watershed area. the critical challenge here is to understand the success rate of this approach in these programmes especially when the state is known for its people-centric approach in case of local governance. This research intends to identify the issues related to the participatory approach and accountability issues that hinder the management and execution of this program.

1.4 Research Questions

The following main and sub-questions will be answered under this research

Main question:

Can the theory of Participation survive the test of time in Kerala where there has been a major shift from a predominant agrarian economy to a white-collar one?

Sub questions:

SQ 1 – Does the three-tier local governance system help the programme to adopt the approach of Participation better?

SQ 2 – What are the determinants of interest among the beneficiaries and the government with respect to participation in the activities of the watershed?

SQ 3 – How and to what extent do beneficiaries participate in the identification, formulation, execution and management of the various activities carried out as part of the watershed programmes in India, with specific reference to Kerala?

1.5 Justification and Relevance of the Research

The guidelines and objectives of both the programme state that “it will be people-centric and focus on a bottom-up approach to make it beneficial for the community” has been highlighted throughout the document. This is in direct contradiction to the fact that the community may not be necessarily equipped with the knowledge required to be able to participate in such activities. Their background and job profiles have not been taken into consideration while adopting this approach. I wish to uncover the loopholes and the problems associated with executing such programmes universally across the state without understanding the socio-economic framework of the community despite the workshops and awareness campaigns that are carried out as part of this programme.

1.6 Structure of the Paper

The paper is organised into five chapters. The first chapter includes the background of the research site and importance of watersheds in the state. The second chapter presents the conceptual framework of the concepts that have contributed to the ideation and execution of watershed programmes. The third chapter is the explanation of the methodology applied for this study. The fourth and fifth chapter is the explanation of the case study of both the programmes. The sixth chapter encapsulates the conclusion of the studies conducted.

2 REVIEW OF CONCEPTS – PARTICIPATION, GOVERNANCE, ACCOUNTABILITY AND DECENTRALISATION

The dynamics of participation around watershed programmes in the specific areas of the Ernakulam district will be analysed using the concepts of Governance, Accountability and Decentralisation.

2.1 Participation

This paper intends to examine if the local population exercise their right to participate in the administrative system according to the guidelines of the programme. As Participation has become central to watershed development, some of the important dimensions highlighted by Kerr Kolavalli (2002b) are – “i) facilitating collective action ii) transferring critical decision-making powers and iii) making communities share the development costs (and of course benefits).”

Table 2.1: Typology of Participation

Form/level of participation	Characteristic features
Normal participation	Membership in the group
Passive Participation	Being informed of decisions <i>ex post facto</i> ; or attending meetings and listening in on decision-making, without speaking up
Consultative participation	Being asked for an opinion on specific matters without the guarantee of influencing decisions
Activity-specific participation	Being asked to (or volunteering to) undertake specific tasks
Active participation	Expressing opinions, whether solicited, or taking initiatives of other sorts
Interactive (empowering) participation	Having voice and influence in the group's decisions

Source: Agarwal (2001)

All the above state typologies attempt to distinguish passive participants from active. Participation is an old companion when it comes to the discourse of development, whose meaning has changed over the years as that of development. As the journey of development moved from service delivery to means of empowerment and last to governance, simultaneously participation moved from a efficacious ways of delivery of development to ownership of the same via active involvement and paying for benefits so as to be able to demand accountability and the rights to engage. There is a shift in discourse where meaning of it has changed from implementation to engagement in larger processes of governance and democracy (Cornwall 2000). This idea was used as a foundation in the governance structure that exists in our country. It can be stated that the Panchayathi Raj act was not just brought about to include every community in the state but also to bring a sense of responsibility in them too.

Paul (1987) has described community participation is an active process to enhance the wellbeing of beneficiaries in terms of income, personal growth, self-reliance, or other values they cherish. And this, policy is intended to create a livelihood for the community by involving them. “Participation implies the use of it to achieve some predetermined or other forms of contribution by rural people to predetermined programs and projects” (Oakley,1991). The objective of this programme is to self-sustain the community in the watershed area through capacity building programmes better known as Information, Education and Communication Activities (IEC) which plays a vital role in creating awareness and mobilizing people.

But one of the most problematic statements is to consider the experiences of those communities who have not been part of the administrative roles in their locality and have remained to be in the fringes of society. The process of local governance will bring them closer towards involving such communities in the decision-making processes of a system. However, there are certain cases of democratic decentralization that stand out as they have achieved both greater participation and social justice for marginal groups and localities, especially with the states of West Bengal and Kerala. In both cases, decentralization has been credited with ensuring participation of subordinate groups as – women, landless farmers and small peasants. This is directly linked to the redistributive policies that were formulated for pro-poor outcomes. (*Hickey and Mohan,2004:162*).

There has been an inclusion of NGOs both local and international working on the part of active citizenship and these networks work through various domains of governance including poverty, environment, corruption and citizen participation (Singh and Parthasarthy,2010:93-94). This study also closely examines the NGOs that are active in the detailed project report phase and the implementation phase in the case of WGDP. As they are actively involved with the GP in the execution of the programme

Putnam (1994), described two perquisites for effective ‘good government’ – firstly, active participation of the community in public affairs and secondly, the civic culture in which the participants are held together by horizontal relations of reciprocity and cooperation.

2.2 The concept of Governance

As Jessop(2014) defined the term Governance as the co-ordination of inter-dependent activities. Among them, three area relevant – the anarchy of exchange, organizational hierarchy and self-organizing heterarchy. In this case, heterarchy is applicable in this case as its forms include self – organizing interpersonal networks, negotiated inter-organizational coordination and decentered. These terms come into play with the community coming together for the better sustenance of the watershed. This is insisted upon due to the long drawn organizational structure that the programme utilizes.

The argument in the literature pertaining to governance is of a wide variety of developments that undermined the capacity of governments to control events within nation states. Referring to flow of power that has moved away from the traditional government institutions upwards to transnational bodies and moved towards region and sub-regions leading to rise of global markets, increasing importance of networks and partnerships which gives access to information and growing social complexity are usually held accountable. As a consequence, state is no more held as a monopoly of expertise to govern but must rely on a plurality of interdependent institutions and actors from within and outside the government structure (Newman, 2001:11-12). As active participation is considered to be one of the tenets of ‘good governance’, there is a relation between the two

From the perspective of UNDP – ‘Governance’ is seen as the exercise of economic political and administrative authority to manage a country’s affairs and the means by which states promote social cohesion, integration and ensure the well-being of their population (UNDP,2002).

The United Nations Development Program (UNDP) in its policy paper in 1997 provides a well-accepted definition of good governance, that has nine components, “ Good governance comprises the existence of effective mechanisms, processes and institutions through which citizens and groups articulated their interests, exercise their legal rights, meet their obligations and mediate their differences.” The components being: participation, rule of law, transparency, responsiveness, consensus orientation, equity, effectiveness, accountability and strategic vision (United Nations Economic and Social Council 2006). The two important characteristics in this definition are participation and accountability, which are used to analyse the management of watershed programmes based on field/primary and secondary sources of information.

2.3 Accountability

It is a central theory in politics and has found relevance in the development field too. The concept of accountability in political science has been described by John Locke by his theory of superiority of representational democracy, where accountability is acceptable only when there is a demarcation between the governed and the governors (Lindberg 2009:3). The World Development Report of 2004 (World Bank 2004:47) suggests four elements that interconnect in significant ways like “access to information, inclusion and participation, accountability, and local organizational capacity.”

Accountability is an important aspect of governance which is to hold the public officials in the various department that are involved in the implementation of the watershed programme answerable to the community. Moreover, the community itself has the responsibility to hold the public office accountable. There are three aspects of accountability that is categorised into following :

- i) Answerability is associated with accountability which pertains to the idea that “individual identity is determined by one’s position in a structured relationship” (United Nations Economic and Social Council 2006:10).
- ii) Liability is also associated with another form of accountability that “sees individual identity rooted in more-formalized expectations developed through rules, contracts, legislation and similar relationships based on legalistic standing” (United Nations Economic and Social Council 2006:10).

The study will focus on the answerability aspect of accountability in local governance in the watershed areas in Kerala. Without accountability the “mechanism to report on the usage of public resources and consequences for failing to meet stated performance objectives and transparency would be of little value” (United Nations Economic and Social Council 2006:10).

Accountability is a social relation that involves elements like sectors within the system and an accountability forum, in this case it is the gram sabha. It involves in the identification of the issues faced by the community and putting forward a plan to make it possible. It is explained in (Bovens 2007:405) as the “actor can be either an individual, in our case an official or civil servant, or an organisation, such as a public institution or an agency. The significant other, the accountability forum, can be a specific person, such as a superior, a minister or a journalist, or it can be an agency, such as parliament, a court or the audit office.”

2.4 Decentralization

Here this concept is in terms of the many levels of local governance structure that play an important role in the implementation of the programme itself. As the various levels come together to identify, formulate and implement the programme in the watershed level. It depends on the delegation of power to the various authorities that exist in the system and the uniformity of this process depends on the action required in certain policy decisions. “Decentralization, or decentralizing governance, refers to the restructuring or reorganization of authority so that there is a system of co-responsibility between institutions of governance at the central, regional and local levels according to the principle of subsidiarity, thus increasing the overall quality and effectiveness of the system of governance, while increasing the authority and capacities of sub-national levels. ... Decentralization could also be expected to contribute to key elements of good governance, such as increasing people's opportunities for participation in economic, social and political decisions; assisting in developing people's capacities; and enhancing government responsiveness, transparency and accountability.” (UNDP, 1997:4)

Since the 1990s the concept of Participation has played a part in the watershed programs in India. The legal and administrative provisions have supplemented this process making the local government play an important role in such programmes. The term decentralisation is associated with public sector reform in developing countries, its popularity has led to its adoption by people across varied political spectrum (Kessy,2013).

As Agrawal and Ribot (1999) defines it “as a strategy of governance to facilitate transfer of power closer to those who are most affected by the exercise of power.” The beneficiaries are being referred to as those who exercise power and are predominantly affected by it. It also empowers them to be part of the decisions that affect their daily life.

3 METHODOLOGY

The study has predominantly applied qualitative methods that consists of Key Informant Interview (KII). In addition to this, information has been complemented with the use of publicly available detailed project report (DPR) of the selected watershed projects. Data has also been considered from both published and unpublished reports. It is also to analyse if the three-tier structure of local governance really helps or hinders the watershed programme in the long run.

The reason behind using such methodologies is that it helps to appreciate multiple perspectives and realities. With respect to the good record that Kerala has in local governance institutions, one needs to analyse its importance in these programmes. This can only be better understood if the viewpoints of beneficiaries and representatives are included. The main argument of behind choosing qualitative over quantitative is to comprehend the respondent's reactions and interactions with the activities in the watershed and other stakeholders. Different techniques have been used to obtain verification of the information, one of them being – Triangulation: “using one or more sources of information to confirm the authenticity of each source”; Member checking: “checking that interpretation of events and phenomena gels with the interpretations of “insiders”, meaning providing readers with sufficient methodological detail” (O’Leary 2014:130).

This research covers both the watersheds within the Ernakulam district of Kerala and was conducted in the aftermath of the devastating floods in 2018.

Table 3.1: Sub-questions and findings

Question	Topics covered	Techniques used
SQ 1 – Does the three-tier local governance system help the programme to adopt the approach of Participation better?	Does it allow inputs by beneficiaries; does the system play a more important role than the community itself.	Literature review, interview with block officials and beneficiaries
SQ2 – What are the determinants of interest among the beneficiaries and the government with respect to participation in the activities of the watershed?	It is to understand what factors are involved in ensuring participation in activities.	Literature Review, Interview with beneficiaries and local government officials
SQ 3 – How and to what extent do beneficiaries participate in the identification, formulation, execution and management of the various activities carried out as part of the watershed programmes in the state of Kerala, with specific reference to Ernakulam district?	Role of gram sabha in panchayath level; was their suggestions included during the formulation of activities; understanding of budgets in terms of activites; trainings conducted as part of management of the resources created.	Comparison with published studies on IWMP and WGDP programmes. Interview with beneficiaries and convenors

A guideline of semi-structured interviews are prepared to conduct the interviews with the various participants of this research specifying the topics and questions.

As we are opting for a multiple case-study method in the case, both the watersheds will be analysed based on a set of factors/questions. “The case study method “explores a real-life, contemporary bounded system (a case) or multiple bounded systems (cases) over time, through detailed, indepth data collection involving multiple sources of information... and reports a case description and case themes” (Creswell, 2013, p. 97). In this case they, will be analysed on the role of Actors, Sectors active in the area, management system and the organization structure. Each of these factors will be placed against the information collected from the 30 beneficiaries who had taken part in the survey.

As I had already worked in the field of watershed management and rural supply schemes, I was able to establish contact with several officials in the watershed development cell at the collectorate in Kochi. My former workplace was also helpful as they got me connected to a higher up official that helped me get permissions to be able to access the documents at the block development office. In both the programmes, I was able to talk to people in the block development office and the NGO who are the implementing agency in both IWMP and WGDP.

I conducted interviews of beneficiaries and convenors in the IWMP programme at the site of the three activities I had chosen at the Parakadavu block while I carried out phone interviews of the beneficiaries in the case of WGDP. I also tried to get as much as possible from the block development office in case of IWMP and members of Watershed Development Team (WDT) like the social mobiliser, assistant engineer, agricultural expert and person responsible for data entry. I also was able to have a conversation with the president of the block on the programme itself.

WGDP gave me a complete new set of stakeholders namely an NGO named ‘Deen Dayal Sevak Sank’ that is based in Mulavoor in the Muvattupuzha block of Ernakulam district. It is run by Mr Joshi Chacko and has been involved in the detailed project report (DPR) of various watersheds in both IWMP and WGDP programmes across Kerala. They also carry out evaluation reports for the government’s rural water supply schemes among other studies they have carried out in the state. They maintained a proper list of beneficiaries, which was easier to access, and I didn’t have to reach out to gram panchayath officials.

To make this report a comprehensive one, in each watershed programme three activities were chosen. In each of this activity, five beneficiaries were chosen for interviews apart from convenor of these works.

3.1 Scope and Limitation of the Research

Researcher’s hands-on knowledge and experience of the local context, people, culture, agricultural ecology, climate change over the years, and the administrative system that play a major role in decision making in such water management initiatives. This background has helped in identifying stakeholders ahead of field research with whom the interviews were conducted. I had intended to conduct Focus Group Discussions(FGD) but due to the floods that hit the later part of the month of July, I could not carry them out in both the programmes. In fact, in case of WGDP programme where the location of the watershed belongs to the highland area of the state was not accessible by road, post this event, so I had conducted them as telephonic interviews.

The number of women and marginal community members who attended were not maintained properly in the IWMP programme. As most watersheds were across one or more gram panchayaths. There seems to be confusion in terms of which representative had this data and I could not access this in terms of IWMP. As of now IWMP is referred to as the watershed wing of the Pradhan Mantri Krishi Sinchayee Yojana(PMKSY), which focusses more on precision irrigation and water saving technologies. Therefore, the number of activities taking place in both

these programmes have reduced. The focus being on sustainable technologies has brought down the importance of watershed under this policy. The devastating floods in 2018 has affected the infrastructure built in both watershed areas, which has led them to rebuild them again. This obviously raises questions on the quality of the structures and if they have been built why was it not built keeping in mind that it was built on the banks of major rivers in the state.

4 COMPONENTS INVOLVED IN THE WATERSHED PROGRAMME IN PARAKADAVU, ERNAKULAM

4.1 Parakadavu Watershed Area

This project area is in the basin of Kerala's largest river Periyar and covers an area of 5161.88 Ha. A total of 65.66 % of the area is categorised as a flood plain category while the rest 34.33% is designated as lower plateau category. This river basin is in the district of Ernakulam, that is located along the western plains of India. As the watershed area is huge, it covers several panchayaths that includes – Aluva east, Arumuthu, Nedumbasher, Puthenvelikara and Kunnukara.

This watershed consists of eight micro watersheds namely – Kuthiyathod, Kunnukara, Kurumaserry, Kaipillikunnu, Kapraserry, Parakadav, Mampra, Puthankavchal. I decided to choose this watershed as there were activities that could be observed and whose committee members could be contacted and interacted with (beneficiaries included). In this case, I have decided to pick three activities in this watershed to understand its impact on the people of this area.

Here the three activities are: -

- 1) Well recharging.
- 2) Lift irrigation – As described in the detailed project report of Parakadavu, lift irrigation is a method of irrigation in which water is transported via external energy that is, through animal, fuel based/electric power using pumps or other mechanical methods. They must accomplish two main tasks namely - first, carry water by means of pump from water source to main delivery chamber, situated at the top most point of the command area, secondly, must distribute water to the field through suitable and proper distribution system.
- 3) Vattachal Manjaly canal renovation - The project is carried out in the ward number 13 of Kunnukara panchayath. There are about seven users in the area. The people in the area had raised this issue ten years back, at that point a temporary structure was built by the panchayath in the year 2009 to block the incoming saline water from the Manjali canal to this area. This area of this panchayath had always cultivated paddy, but over the years, the change soil and water have led them to cultivate banana and yam. The incoming saline water led to these changes, with that the age-old agricultural practices has only aided them over the years.

Two years after the temporary structure was constructed, it collapsed as it could not withstand the subsequent monsoon. Then a demand for a permanent structure was put forth to the authorities and the beneficiaries also insisted on wanting a shutter to be built into this.

4.1.1 Stakeholder Analysis

Brief description of each stakeholder is based on the information collected from the individual interview of resource persons which is based on the power structure that has been defined in the guidelines for the IWMP programme.

Table 4.1: Stakeholder analysis and findings

Stakeholder	Power	Area of Focus	Position
Beneficiaries	low	The ability to earn a livelihood from the resources availed from the watershed area	<p>The community consist of 85,676, of which 7218 constitute of Scheduled caste. The region is also home to small-scale, marginal and large-scale farmers. Here the homestead cultivation plays a major role than the commercial cultivation.</p> <p>As the second-generation work in private firms or are self-employed. Most of them do not consider cultivation as a form of livelihood but maintain a homestead agriculture to satisfy their family's dietary needs.</p>
Watershed Committee	Average	They support the GP to carry out the activities in the area with technical support.	<p>The representatives are the beneficiaries and the officials from the GP. They help in the activities to be carried out across the entire macro watershed which means it would include area that is under three or more-gram panchayaths.</p> <p>They receive funds for the activities that have been finalised with the support of the Watershed Development Team (WDT). Most of the activities put forward relate to solving water scarcity issues in the households.</p>
Watershed Development Team (WDT)	Average	They are the committee that guides the Watershed committee in the formulation of the action plan of the area.	<p>It includes an assistant engineer, social mobiliser, agriculture assistant and a data entry operator. It is an integral part of the BDO, as they are responsible for implementing the programme.</p> <p>As the programme began in 2013, and it takes about 4 years for them to officially exit the programme. None of the officials are part of the team in the WDT in the BDO. I could not access the information on the preparatory and watershed work phase that constitute the initial four years.</p>
Gram Panchayath (GP)	low	They support, supervise and advice the watershed committee.	They investigate the financial accounts and statements of these committees and also maintain a register for the activities under the watershed projects.

			As there are multiple gram panchayaths involved, I could not access information on the gram sabha held as part of the watershed activities. And other supporting documents as well.
Block Development Office (BDO)	High	They are the program implementing agency	<p>They provide technical guidance to the GP for preparation of the development plans and submit the action plan for watershed development project.</p> <p>I received all my information on the various projects conducted in this area in here and had access to the details of the presidents of the panchayath, convenors, watershed committee members.</p>

4.1.2 Actors

This water management and governance system involves central and state level coordinated agencies and that would supervise the implementation of the programme to the last level in the watershed area. Beneficiaries are the most important section in this entire top-down approach that is involved here. A total of 15 beneficiaries have been interviewed including 2 convenors of two activities.

a) Gram Sabha – Most of them had attended the gram sabha. As the 70-year old octageranian government employee stated,

“My son had attended the gram sabha on my behalf. I was not feeling well and he was back from Dubai for his summer break. The demand for the recharging of well in the area was there for a long time. I had spent almost Rs 5000 (70\$) for a month for private water tankers to fill our water tanks. This was a need of the hour as I am retired and my son is not always able to send money due to the erratic form of employment in the UAE these days.”

If the beneficiaries were not able to attend it themselves they would surely send in one of their family members to do so. As most of them said, access to water remains to be a major issue among them especially during summer months.

Though the Parakadavu region was renowned for the paddy fields, most of the discussions around it are not involved with reviving the sector and revolves around making the basic needs of the community accessible. As stated by the convenor of the canal renovation activity,

“We had requested for the shutter to be built almost ten years ago. This whole area grew paddy and it was quite profitable too. Some did it on their own land while others took it for lease. Over the years, the interest in agriculture and the productivity of the land decreased, it was the excess usage of pesticides and the entry of saline water from the tributary of the Chalakudy river that joined the canal, especially during rainy season. The shutter would control this and would help revive the cultivation again. The BDO has taken a long time to

make this a reality, it was supposed to start last year but due to the floods, it was pushed back. It would take more effort to revive it completely, as the area is covered with weeds and have been left fallow for almost 5-7 years. But I do wish to bring this area back to its former glory.”

Most of the panchayath leaders stated that delay in funds, filing of papers in the BDO was the most time-consuming process. Though everything was completed, there would be delay in release of funds, and then they would struggle to explain it to the beneficiaries on why it could not be completed on time.

b) Need for potable water for household purposes

Most of the active projects surround around providing better access to water for household purposes, two of the activities chosen namely lift irrigation and well recharging contributes to the same need. Though this programme was built around the idea of a holistic management of resources in a watershed area. It is now reduced to providing potable water to households. Though several seminars and awareness campaigns have been conducted towards the sustainable maintenance, which is to be done so as part of the programme. These have not been able to bring the people together in creating a livelihood that could sustain themselves and the ecosystem. As one of the beneficiaries stated –

“I am a tailor and work from home while my husband is a plumber. I meet my home expenses also by maintaining a vegetable garden as we both do not have a steady income. During summer, things get difficult as our well gets dried up and finding alternative sources of water is not an easy task. There are times when we must negotiate with private water providers and as my area goes through the same problem, their prices shoot up. The need was to find a long-term solution for this problem. As this area has a rocky terrain, our former ward member suggested this project and we all supported it.”

The people I interacted with were more proactive when it comes to their immediate needs as the water table in various parts of the state have gone through a major haul due to unscientific agricultural and preservation techniques. The quality of water has been affected in the area due to the use of pesticides and the diminishing interest in the conservation of wetlands also contributes to it. As the major factors of agriculture get affected, this would also lead to a fall in terms of income from the same.

As one can say, most of the beneficiaries are in the older age group and depend on their children's income. Their participation in the gram sabha is to just make sure that they can avail themselves of the project and would get access to water. Some of them, just ask the ward member to add their name to the list as they know them personally and do not attend the meeting. As the 57-year-old beneficiary stated –

“I have diabetes and find it difficult to travel for the meeting and I just passed on the information to the ward member to be included in the list. My children work abroad and me and my wife depend on their income, we needed a solution for our summer water woes.”

c) Involvement of beneficiaries in the activities

The guideline in this programme was changed keeping in mind that participation of the people would make the activities carried out more locally relevant. As the officials in the top-most ministries and departments may not know the challenges or shortcomings while formulating an action plan.

In the case of the canal renovation, most of the beneficiaries are in their late 50s and used to cultivate in the area. They are now retired, and their children are working abroad and have no income of their own. The need for constructing a shutter is more to do with the control of flow of water and does not necessarily pertain to reviving cultivation in the area. As one of the beneficiary stated –

“My children are working in Kuwait and both my wife and I used to cultivate in the area by leasing out land. But over the years, the cost of doing it and the fall in production deterred us from continuing it. Our children don’t want us to continue working as it is not a formidable form of income as it used to be. I had been part of the gram sabha, to renovate the canal so as to control the water during the monsoon as our courtyard and surrounding lands has been getting flooded for the past three years and it got worse during last year as majority of the panchayath was under water. This structure may not help in reviving agriculture but would atleast save our homes during the rainy season.”

The lift irrigation project initially was a convenor work but due to the changes in the policy at the central level, the project was carried out as an e-tender. As the beneficiaries did not have any idea about how a lift irrigation works. Lift irrigation as defined in the DPR itself is a method of irrigation in which water is transported via external energy that is, through animal, fuel based/electric power using pumps or other mechanical methods. They must accomplish two main tasks namely - first, carry water by means of pump from water source to main delivery chamber, situated at the top most point of the command area, secondly, must distribute water to the field through suitable and proper distribution system. In this case, an expert is required and the involvement of the beneficiary is reduced to just be able to provide for the monthly maintenance of the motor in this case. And also be able to participate in the committee meetings pertaining to the project. . As one of the committee members had mentioned –

“the project was initially a convenor project, but due to the changes in the policy and delay in funds, it was later set aside as an E-tender project. So, it was carried out by an expert who had already carried out lift irrigation projects. The project was just completed and a meeting will be held to decide upon the maintenance charges that will be collected from the beneficiary as part of the motor that will need the same.”

4.1.3 Sectors

The agricultural sector has undergone major degradation over the years especially in the areas of Kunnumkara, Mundakapadam and Parakadavu. This can be connected to the use of chemical fertilisers and the old-age methods of agriculture that has not been upgraded with the change soil and water in the area. The lack of structure to be able to stop these watershed areas from waterlogging. Some of them have been destroyed due to the floods last year. In fact, it was inundated a week after my visit in July, the officials in the panchayath had said that they had hoped to reconstruct atleast three structures in the area. On my visit later, I was told that they are going

to wait until they assess the destruction as a result of the flood again in July this year. This makes it clear that the initial investment here has not been built that can outlive natural disasters.

Home stand Farming – It can be defined as in where a farmer cultivates a variety of crops including coconut for attaining his household needs, which ensures economic and nutritional sustainability. The state of kerala is more often known for homestead farming and this concept has got diluted and started to plant more crops in the limited areas (Josephrajkumr et al, 2018). This is relative to the smaller land holdings in the rural region of the state as this leads to exploitation of the land and resources as the traditional crops grown in this area are water-intensive.

Even the natural resource management projects in the area like animal husbandry activities have not lead to a sustained form of livelihood for the community. The lack of proper facilities for marketing, training and scientific knowledge has made this sector a failure. Even though, there was a string of workshops, awareness campaigns and monetary benefits to make this possible for the community. It is also because the community does not consist of farmers and cultivators anymore, as more of them work in banks, private firms and daily wage workers.

4.1.4 Management Systems

Integrated Watershed Management Programme(IWMP) is a centrally sponsored scheme under the Ministry of Land Resources, Department of Rural Development, Government of India. In Kerala the scheme is implemented through Department of Rural Development. The main objective of IWMP project is judicious utilization of every drop of rainwater received, for domestic consumption, agriculture, horticulture, livestock rearing etc thereby attaining self sufficiency in drinking water, increase in employment opportunities, increase the standard of living etc. A holistic approach is envisaged in this programme. Unlike other watershed development projects here there is space for aiding livelihood activities, assistance for enhancing production system and also provision for microenterprises.

The project aims to restore the ecological balance by harnessing, conserving and developing degraded natural resources such as soil, vegetative cover and water. The outcomes are prevention of soil run-off, regeneration of natural vegetation, rain water harvesting and recharging of the ground water table. This enables multi-cropping and the introduction of diverse agro-based activities, which help to provide sustainable livelihoods to the people residing in the watershed area.

Government of India have issued common guidelines for watershed development in order to have a unified perspective by all stake holders. The key features of common guidelines include innovativeness in the approach, delegation of powers, strengthening dedicated institutions, social, gender and economic equity in sharing enhanced productivity and livelihood, multi-tier ridge to valley system approach and centrality of community participation. The IWMP is a holistic project with all essential components such as capacity building, lively-hood activities, Production system, natural resource management, and a dedicated institutional system for effective and comprehensive implementation. Kerala is the only state where IWMP is being implemented exclusively and through the complete involvement of local self government organisations and involving maximum participation of local population right from planning through all stages of implementation and monitoring.”(IWMP Kerala). This is done with respect to the success rate observed in the participation in PRIs in the state. But it seems to falter from the beginning itself as it is not easy to bring a community together when it comes to protecting their surroundings.

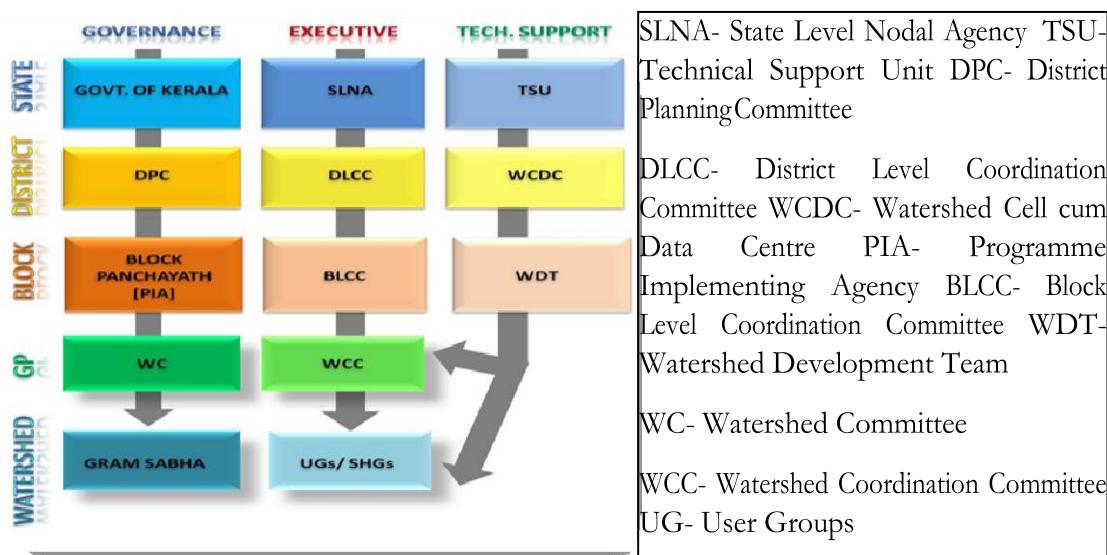
“In Kerala, out of 22.4 lakh ha of cultivated land in the state, around 9.0 lakh ha is prone to soil erosion, which constitutes 40.18 per cent of the total cropped area (Government of India, 2001). “Due to the predominance of small and fragmented holdings, massive interventions on a

contiguous basis shall form the central strategy of any conservation measure. That is how an integrated soil and water conservation programme on watershed basis assumes significance.”(Thomas et al,2009).

4.1.5 Organization structure

The structure below shows the number of committees formed in each of the levels in the local governance structure namely state, district, block, grampanchayath and finally at the watershed level. It is not a flow chart of how the power flows but only a description of how the number of committees/groups that exist at each level.

Figure 4.1: Organizational Structure



Source – (CSES,2013)

State Level Nodal Agency (SLNA)

It is constituted by the state government with separate bank account. They mainly consist of representative from NRAA, Central Nodal Ministries, NABARD, Rural development, Agricultural, Animal husbandry, forest groundwater, NGOs, Professionals from Research institute among others. They sanction watershed projects based on state perspective and strategic plan.

Functions of State Level Nodal Agency

They prepare the State Perspective and Strategic Plan (SPSP) and work Implementation strategy. They also provide technical support outline capacity building strategy, including online monitoring of watershed projects.

Watershed Cell Cum Data Centre (WCDC)

It is established at district level. They oversee the implementation of watershed programmes. They are also involved in preparing strategic and annual action plan for watershed projects and also facilitate department coordination and convergence of schemes.

Role of Panchayati Raj Institutions (PRI) at District and Intermediate levels – They have the full responsibility of overseeing the watershed programme in the district, WCDC and in collaboration with DPC.

Institutional arrangement at Project level – PIA is responsible for implementation of watershed projects. In the case of Kerala, it is the Block development office (BDO).

Roles and Responsibilities of PIA – It provides technical guidance to GP to prepare development plans through PRA. They arrange social audits, encourage adoption of low cost technology. They also facilitate mobilization of additional financial resources through convergence.

Watershed Development Team (WDT) – They work closely associated with watershed area but in collaboration with WCDC and is an integral part of PIA. They assist GP in formation of watershed committee hence organize user groups/ Self-help groups. Monitoring and checking measurement of works are among other responsibilities that they are involved in.

Institutional arrangements at Village level and people's participation

Self Help Groups (SHGs) – With the help of WDT, watershed committees constitutes Self-Help groups among poor, provide revolving fund for the livelihood activities in the area.

User Groups (UGs) – Watershed committees with help of WDT constitutes user groups. They facilitate resource use agreement among user groups. They are also responsible for operation and maintenance of assets created.

Watershed Committees (WC) – Gram Sabha constitute Watershed committee to implement project with technical support of WDT.(CSES 2013, Chambakkulam DPR)

But there has been delay in implementing these projects and in some cases takes years even if the detailed project report is prepared. The project ideally takes 4-7 years in case of implementation. The document remains to be a file and may not necessarily be functional in the field. There have also been issues with some of the committees, as they exist only on paper.

As the different levels of PRI are involved in the programme, there seems to be a lack of connect between the BDO,GP and the beneficiaries at the ground level. The delay in the canal renovation was a case in point, it has taken almost 10 years for it to be implemented. This just proves how ineffective the organisation structure is, the ideation of activities takes place at level of GPs, and by the time this request reaches the BDO and is further processed to get the required funding can take years. And when all the documents and funding arrived, the floods delayed the construction further by a year. The area was again flooded in the month of July, which has lead to delay in the completion of the project. This means that when there is an ideation of an infrastructure in a selected area of the watershed, it is done based on certain conditions that was observed at that time. A delay by a year or more would require a different kind of infrastructure based on the changes observed in land, water and weather.

Even though, the power structure has been clearly mentioned in the guidelines and the duties each of them needs to carry out. There have been gaps in terms of getting the funding for each of these activities – delay in funding, files not being forwarded to the required department on time. There has also been delay in transferring the ownership of the resources that have been created under this programme being given over to user groups/GP. The programme should have successfully completed the infrastructure and production activities mentioned under the DPR and transferred to the community. Even in 2019, several projects are under construction, some have not even been started which itself are signs of not accomplishing the goals set aside by the programme itself.

5 COMPONENTS INVOLVED IN THE WATERSHED PROGRAMME IN SHOOLAM THODU, ERNAKULAM

5.1.1 Shoolam Thodu Watershed area

According to the detailed project report, the total population in the project area is 3011. Of which 1568 consist of females and the rest 1443 are males. There are around 705 households in the area. The main agricultural crops grown here are rubber, coconut, arecanut, paddy and banana. This watershed is located across two grampanchayaths namely Marady and Pambakuda. Both are in the Muvattupuzha taluk of the Ernakulam district. This predominant agricultural area covers the wards 1,2 and 13 of Marady panchayath and the wards 3 and 4 of Pambakuda panchayath. The total area accounts to about 579 Ha while the treatable area contains an area of 521 Ha. The Shoolam canal drains into the Muvattupuzha river which lies to the north of the watershed.

In this case, I have picked three activities in this watershed to understand its impact on the people in the area. The three activities chosen in this case are –

- 1) Rain pit - This is done to bolster water availability in the region. It is commonly done in agricultural land to help the availability of ground water. Kerala is one of the states in India that receives the maximum rainfall in the country but most of the runoff flows into the Arabian sea. In this case, rainpits help the water to be collected, which can then be used for the summer season for household and agricultural purposes. In this region, the pit has 2 metrer length, 60 centimeter width and 50 centimeter depth. The number of pits and location to be dug are decided by the agricultural officers who visit the beneficiary's home.
- 2) Well Recharging.
- 3) Nutmeg and tissue culture banana cultivation - This project comes under the production system management, in this watershed programme 5% of the total amount should be spent on an activity under this category in the first year itself. It aims to give importance for the development of agriculture. This activity was carried out keeping in mind that this watershed area had a predominant consists of farmers.

5.1.2 Stakeholder Analysis

Table 5.1: Stakeholder analysis and findings

Stakeholder	Power	Area of focus	Position
Beneficiaries	low	Ability to maintain a livelihood in the watershed area	Most of them maintain a homestead cultivation of banana, coconut and vegetables that fulfils the family's dietary needs. The second generation of the farmer community work in private firms or are self-employed. So, they are not able to actively involve in the formulation of activities that contribute to agriculture in the area.

			Most of the activities discussed in the gram sabha are related to the water scarcity issues in households. So majority of the funding is set apart for activities like well-recharging and rain-pits.
Watershed committee	low	Executive body of representatives that involve in final listing of beneficiaries, collecting their financial contributions for activities, verifying through social audit and monitoring of these activities	<p>The representatives are from user groups, farmers and standing committee of the panchayath. The grams sabhas conducted for the activities in the programme are done under their aegis.</p> <p>This programme aims to do activities that contributes towards a livelihood for the community. The activities that come under the production system management section have not been able to give prolonged success. As this programme is set to be implemented for a period from 2014-2017.</p>
Gram Panchayath (GP)	High	Responsibility of Detailed Project Report (DPR) that implements a project according to the guideline of the programme	<p>In this case, the DPR preparation is given to an NGO who are chosen based on the terms as stated in the guidelines.</p> <p>They provide basic guidance in project preparation and also in this case as this watershed area covers two-gram panchayaths. So, officials in both these need to provide data to be able to create a baseline survey. It needs to conduct the gram sabha for various activities in the area.</p>
NGO	High	It will be carrying out the DPR for the watershed area and be playing a role in the implementation of the project.	The organisation that was chosen by the GP was the Deen dayal sevak sangh that has been involved in the evaluation of government schemes for years. they help in conducting a baseline survey, creating the DPR and play a role in implementing the project.

Source: Primary Data

5.1.3 Actors

This water management and governance system involves state level coordinated Western Ghat cell that reports to the central government to the watershed community present at the area. Various agencies at each level of Panchayati Raj Institutions (PRIs) are involved in the implementing of the project. Beneficiaries are the most important aspect of this programme. A total of 15 beneficiaries have been interviewed in the above-mentioned activities, that is 5 in each case.

- a) Gram Sabha – it can be defined as a forum where all the voters of the area can participate in the local governance. As one of the beneficiaries who used to farm on land taken on lease

“As a resident of the Pambakuda panchayath, this area is majorly rocky terrain, so there needs to be methods to retain water via rainpits and well recharging projects. I own 0.06 Ha of land and maintain a rubber plantation. It gets difficult during the summer months as water is required for both the cultivation and household needs. I with a group of my neighbours have been demanding a solution for the water problem especially during the summertime and so have been actively involved with the gram panchayath to make this possible.”

This community is depended on agriculture for their livelihood and the sustainability of the resources in the watershed area plays an important role. Though the watershed area has enough of water resources to supplement the cultivation in the area, there are issues related to its scarcity from January to May which needs to be addressed. Both the panchayaths of Marady and Panbakulam experience water shortage during this time. Hence most residents of these areas have actively been involved in the gram sabha held on the projects of rainpits and well recharging.

As the 56-year old beneficiary of the well-recharging has pointed out –
“I needed to shell out Rs1000 for 2 weeks for the private water tankers. I am retired and rely on my children who are employed in Germany. This led me to actively participate in the gram sabha as it would help me cut down my expenses.”

- b) Need for water for household and homestead farming purposes.

In an area that is dominated by agricultural activities and homestead farming, the proper usage and availability of water is important. As this watershed programme is built around preserving the natural resources in the Western Ghats area. This area comes under this region. Like most watershed programmes, awareness campaigns were held to help the community realise the steps needed to be taken to preserve this area. As this 37-year-old beneficiary has stated –

“I work in a private firm and need water for household purposes and also the kitchen garden that I maintain. But it gets tough during summer as my well dries up, and most of the wells in this neighbourhood does too. We all wanted a long-standing solution as it accounts from the months January-May which is almost five months in a year. I had actively participated in the gram sabha related to the well recharging and rainpits.”

Here the homestead farming also plays a role as most land holdings have crops like banana, coconut and tapioca. As this area is predominantly rural, so each landholding is big enough to have a multitude of crops that will help in the household's sustenance. In such cases, the household requires water for not just its purposes but also to sustain the crops in the homestead agriculture.

As one beneficiary in the well recharging project, “*I and my mother maintain a vegetable garden at our home. We mostly grow vegetables as it is economical for us too. So, the water shortage during summer affects us and it is also difficult to get water from affordable private water tankers. I work as an electrician and it gets difficult to pay up for these private water providers and so I wanted us to have a permanent solution for the coming years.*”

c) Involvement of beneficiaries in the activities.

The guidelines in both WGDP and IWMP are along the same lines that gives importance to participation of the beneficiaries. Especially as this area is designated as under the Western Ghats, it is important to understand the perspective of the community that has been part of this area for a longtime.

In the project involving, nutmeg and tissue culture banana cultivation should have ideally involved the community. But as the succeeding generations have not continued with agriculture, it is difficult to analyse the success of this particular activity in the community. Most of the beneficiaries work in private firms, banks or are self-employed while their parents were traditionally farmers and cultivators. And it is difficult to believe them when they comment on the quality of the saplings they were provided with. As they have no concrete knowledge about agriculture and how it needs to be properly carried out to get the desired results.

As one of them had stated – *“I got involved in this because of my parents and attended a one-day awareness campaign, it gave a general idea on how to sustainably maintain the watershed area. But there was no information on the procedures that would help in maintaining these saplings better. We were given five saplings of tissue-culture banana costing us Rs 10 each and two nutmeg saplings cost Rs 25. The saplings were not of good quality as only two of the banana saplings survived and the quality and quantity of nutmeg produced was not upto mark.”*

As in all activities carried out under the WGDP a percentage of the work needs to be contributed by the beneficiaries. In this case, both well-recharging and rain-pits have them contributing 10% of the total cost. This makes the beneficiary to be actively involved in terms of financing the activity and thus attending the gram sabha and involving themselves in the decision-making process.

5.1.4 Sectors

As agricultural sector is the most important one in the area, it is affected by various factors. One of the m being, soil erosion in most parts of the watershed area has occurred which has contributed towards less productivity. This has occurred due to the hilly terrain of the area. In addition to this, pollution of the soil due to the excessive use of pesticides also had affected the sector as a whole.

Another important factor is the levelling of paddy fields for the construction of homes and other non-agricultural purposes has led to the changes. Unscientific agricultural practices like growing tapioca in lower areas which was once used only for paddy has also affected the land in the area. there has also been a practice of growing cash crops in the area when it is not suitable to do so on a long run. As in the case of IWMP, home stead agriculture plays a significant role here too. Unlike Parakadavu, rubber is grown here due to the rocky terrain of the place.

Animal husbandry is not profitable anymore for the community due to the increase in costs of fodder, as paddy is not grown anymore which adds on to the cost. They also do not have access to high-bred animals in the area which also means that they cannot access modern veterinary sciences as required in this case. The maintenance of livestock cannot not be done as the farmers themselves are not able to earn a profitable income from agriculture itself.

5.1.5 Management Systems

The Western Ghats region of Kerala covers about 450 kilometers of the total length of 1600 kilometers. This region is better known as 'Sahyadri' and comprises of 72% of the state and contains 50% of the state's population. That is this region has 90 block panchayaths and 561 grama panchayaths. The western ghats contributed to the rainfall in the state, as it is a birthplace of 44 major rivers flowing through the state.(Government of Kerala-WGDP,2014:1).

It was during the 12th plan that, the WGDP was made more people-centric, aimed at improving the status of the community. The new guidelines in this plan in the context of the state of Kerala, was to integrate its implementation with the decentralized planning process in the state. Following the principle of 'people's participation' for developing locally relevant activities for the watershed area and to develop a comprehensive 'participatory mode' for the implementation of the projects under this scheme. Like the IWMP, there is also an attempt to use the self-help groups, Kudumbashree etc for organizing and execution of location-specific activities in the watershed. To ensure sustainability in the assets created as a part of these projects will be transferred to the local body/user groups, as they will then be responsible for its operation and maintenance (Government of Kerala-WGDP,2014:5).

5.1.6 Organizational Setup of WGDP

As described in the guidelines of WGDP in 2011, the following is the governance structure that is explained in the document.

1. **Western Ghats Cell** – situated in the Planning and Economic Affairs Department oversees coordinating the implementation of the programme with reference to guidelines, release of funds among others. Their role is to communicate the allocation based on district, consolidating projects and annual action plans, fund release, monitoring and Evaluation being some of the other responsibilities
2. **District level Co-ordination committee (DLCC)** – In this the district collector is the chairman. Their main responsibilities is that of the approval of DPR(detailed project report), monitoring and reviewing of the programme, decisions relating to the maintenance of assets being among others.
3. **District Level Technical Committee (DLTC)** – chaired by the district planning officer, it is constituted for the vetting of the WGDP profile project report, issuance of technical sanction and monitoring and reviewing among others.
4. **Deputy director of agriculture** – they play a formative role in the preparation of the PPR and DPR, give recommendation of watershed projects among other responsibilities.
5. **Gram Panchayaths** – they are responsible for the preparation of Detailed project report for the implementation of the project under the guidance of the watershed Development team while the implementation will be followed by Watershed Committee and Agricultural officer. Their functions being preparation of the project report according to the guidelines and in accordance to the principles of DLCC, securing contribution of beneficiaries among others. Here, the detailed project report and the baseline survey is carried out by an NGO that fulfills certain conditions according to the guidelines for WGDP scheme.

6. **Watershed Community (Watershed Gram sabha)** – this is the general body of the residents of the watershed as well as farmers within the area. Its major functions are discussing local problems and provide solutions to these, mobilize contributions of the beneficiaries, ensure beneficiary participation etc.
7. **Watershed Committee (WC)** – it is an executive arm of the watershed community, with farmers, representatives of neighbourhood groups, standing committee chairperson, officials in the working group are some of the members. Its functions include, preparation of beneficiary list for final approval, collecting beneficiary contribution, verification through social audit, monitoring of implementation etc.
8. **Watershed Development Team(WDT)** – constituted at the block level with experts on agriculture or agriculture engineering, social mobilization who work under the assistant director of agriculture as support to the panchayath level.

Accredited Non-Governmental Organisations(NGOs) – Grama panchayath can decide on selecting dependable Non-Governmental Organisations (NGOs)/ Voluntary Organisations. These need to have experience in handling infrastructure, commitment and vision for intervention in activities under western ghats region. They will be selected based on a set of extensive guidelines by the panchayath (Government of Kerala-WGDP,2014:9).

The activities that have been listed out in the DPR have been carried out in a participatory manner but production system activities like livestock programmes, nutmeg and banana sapling cultivation have not been as successful as it should have. Most of the livestock supportive programme have could not be prolonged and it did not continue to provide a form of livelihood for the community. As these activities are usually envisioned at the PRI level, based on a set of formulaic activities that are carried out in other watersheds across the state. This watershed programme is carrying out more water conservation-based projects that would help the households in the area to have access to water throughout the year.

In this case, NGOs tend to work as an independent body than play an important role in the bridging the gap between community and state. Lack of coordination between government officials and watershed committee due to which decentralization is ineffective among them and the ‘bottom up’ approach is yet to be applied. To add to this most officers who have been in-charge of the watershed development team, get transferred to other GPs thus hindering the process altogether.

6 Why was a watershed in IWMP and WGDP chosen for comparison?

A watershed of this programme will be compared to that of one of the Western Ghats Development Programme(WGDP). This was chosen as there are similarities in the structure and functioning and most importantly it aims to carry out the same objectives. The major difference being that while the former has the block office as the implementing agency, the latter is done so by the selected NGO. There are also issues related to the latest scheme named PMKSY (Pradhan Mantri Krishi Sinchayee Yojana), which has led to funds being reduced in the above mentioned programmes. This programme is developed around the 'per drop more crop' slogan, meaning they intend to concentrate more on micro-irrigation that is suitable technologies and practices that would help in better utilisation of the water source and its efficient distribution in agriculture. Since 2014, the importance of watershed-based activities is not part of their objectives, hence there has been a decline in funding of these former watershed programmes.

7 Conclusion

These programmes were formulated for the farmer communities living in watershed areas across the country. In times, when cultivation has become expensive with rising cost of labour, machinery and changes in agricultural policy. It was done keeping in mind that they need to have sustained form of livelihood with respect to the resources that are available in their surroundings. The participatory approach has been brought about in these policies without considering the demographic changes, increase in cost of agriculture and labour issues. The policy has not updated according to the socio-political changes in such communities, that continues to be a challenge.

Table 7.1: Major differences between the two watershed programmes

IWMP	WGDP
Macro watershed	Micro watershed
BDO implements the programme	NGO implements the programme (with GP's support)
Not any specific region of the state	Western Ghats region of the Kerala

The above two watershed programmes have been chosen to understand how people's participation is used as a concept to work towards a sustainable watershed community. The common aspect between the two watershed programmes is that both watersheds have been chosen from the same district of Ernakulam in Kerala with the same demography. This was done so that the observations and challenges faced by them would be similar and easier to analyse.

Demographic Changes

For the past ten-fifteen years there has been changes in the demography of Kerala, especially with its slow growth in the economic sphere. As it can be observed, a majority of the beneficiaries are working in private institutions, banks or are self-employed. With testimony to the fact that their forefathers were cultivators, most maintain homestead agriculture like banana,

coconut, tapioca and a variety of vegetables. This has been done to satisfy their own dietary requirements and not necessarily sell the whole produce. Therefore, it can be said that it is no more the primary form of income as before. The influx of labour unions from the 1930s, and further propelled by the land reforms in the late 1960s, led them to play a more proactive role by displaying its bargaining power in the subsequent pro-labour governments during the time. The opposition to technological changes to not just the field of agriculture but also small-scale industries like coir debriefing and spinning set the state of Kerala backwards in terms of economy. The final blow was the psychic costs that contributed towards managing labour relations in the presence of multiple unions, which resulted in the industries shifting to areas outside the state. This would help them implement the technological changes to areas that demand lower wages than Kerala (Kannan 1998:63). The lack of knowledge on how to tend to certain kinds of crops is evident in cases like the nutmeg and tissue-culture banana saplings activity in WGDP. Most of them claimed that the saplings were not of good quality as it had not produced the output as claimed by the NGOs and the agriculture office.

The beneficiaries who are in the 50+age bracket were commercial farmers in the area, but have stopped cultivation due to increase in labour costs and the fall in agricultural output. Their children are educated and work abroad in the middle east and Europe, they also rely in their income for their daily expenses. This just reiterates that the social preferences of the youth have changed with time and there is a rise in the preference for a stable permanent job. The working group in both the areas work in the nearby towns and cities or are employed abroad.

Decentralised Structure Involved in the Execution

As both the programmes utilize the local governance structure to implement it, with BDO being the agency to do so in IWMP and the selected NGO with the help of GP in WGDP. Despite, the state being known for a PRI that has attained national accolades for being one of the most successful models as there is active participation from the community's side. There seems to be gap in terms of communication and delegation of power between the BDO and the GP. In terms of understanding the status of certain activities in the area, this is in case of the lift irrigation project where it was completed via e-tender process. E-tender process is done in cases of road and water works in the GP and block level. A proper explanation was not given, and they stated that the delay in funds due to the change in policy cause by the introduction of PMKSY led them to change their decision. This was only known when I had the opportunity to interact with the watershed committee member and was not mentioned at the BDO. In WGDP, the NGO did most of the work with the support of the GP. The NGO had set activities that were usually carried out in the programme in other states, not essentially considering the needs of the community in the specific area. This programme has utilized the existing decentralized governance system in the watershed thinking that a familiar system would encourage the community to participate.

Gram Sabha and the Need of the hour –'Water'

As the awareness level of the people in the state irrespective of rural or urban areas was significantly high due to their high literacy, it was interesting to note that the community did participate in the gram sabha. They had the power to voice their opinion and forward their demands based on which certain activities have taken place in both the cases. It was related to the access to the most important element in every household – 'Water', this was observed in both the areas. It seems that the programmes that was designed to not just protect water, land and be able to provide the community with a livelihood was now reduced to any other normal drinking water scheme. This could have been easily carried out by the local government, which already has a

responsibility to provide for water just like other schemes related to road, public hall facilities etc. Though the DPR of both the watersheds envisages a foray of activities which should effectively lead to a sustained environment, it does not yield the expected result. This programme seem to come across as a drinking water scheme, and the larger issue of protection of the watershed is getting sidelined.

The gram sabha play a pivotal role in deciding the course of action in both the watersheds. The programme has three kinds of activities namely – Natural Resource Management (NRM), Livelihood activities and Production System Management. From these, it is NRM activities like well-recharging, rain-pits that the people can actively ask for, as most traditional agricultural land are experiencing problems with respect to the groundwater due to scarcity and pollution. Other projects like the canal renovation do get the attention required but it some of the have taken longer than expected to be implemented. On enquiring about livelihood activities, in Kerala it is done through the ‘Kudumbashree’ network and involve activities like group farming, poultry and livestock raising among others. But most of them do not stand the test of time as either the access to a veterinary medicine in cases of sickness of animals or they do not prove to be as profitable as expected. The activities under Production system management, include ones like providing saplings of vegetables provided to the community. As one of them observed in WGDP, the beneficiary did not specifically ask for the seedling and was provided by the WDT. The scheme was not as effective as expected as most beneficiaries were not farmers and stated that they were not given any specific classes to better tend these crops so that they could have extracted the maximum output from these.

Participation – Does it live upto the hype?

These programmes were intended to capitalise the concept of ‘Participation’ that came into fore in most development schemes around the world. But it seems here that, the demographic changes coupled with the fact that agriculture is not as profitable as before proves detrimental to the watershed-based programmes. In both the cases, these two factors play a major roadblock to making such policy useful to the community. As the role of beneficiary is limited though the policy claims to bring in solutions from the community itself. It does not employ the level of participation in each level of activity namely – identification, formulation and implementation. It is not possible as some activities require expert opinion, and every need of the community cannot be encouraged as it may not necessarily be possible. As the sapling project in WGDP is an example of experts playing a major role in decisions than the beneficiaries. The recent floods that hit the state and especially the district of Ernakulam in 2018 has affected the infrastructure in both the watersheds. As observed in the IWMP, the entire structure built in preparation for the building of a shutter was destroyed. This also states that the plans and methods used to build these are not disaster-prone approved. The issues arising from climate change should also be taken into consideration, so that the investment put into watershed areas lives on for posterity. Thus, it can be safely said that participation is not functional when it comes to monitoring and sustaining a community’s surroundings, but it seems to work when applied in cases of providing basic facilities to the same.

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Annexure – I

Interview Guideline

Title: An Assessment of Participatory Governance in Watershed Programmes: A case of Kerala state in India.

Name of the project	
Location	
Ward no	
Area	
Users	

Beneficiary info	
Job profile	
Education	
No of members in the house	
Type of house	
Have you attended the gram sabha meeting?	

Beneficiary	Implementation strategy	People Participation	SHG + any other group
Name -			

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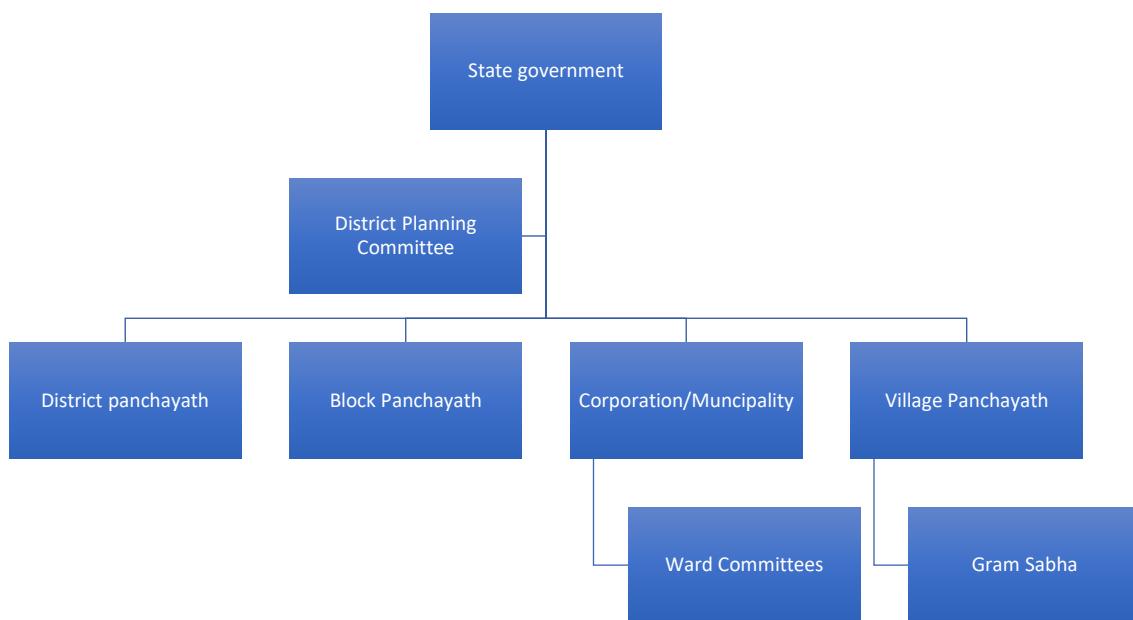
Annexure – II

Local Governance system of Kerala

The institution of *gram panchayat* (village councils) which came into being in Kerala in 1953 (long before Parliament enacted the enabling Act in 1992) gave concrete shape to this revolutionary idea. Members of councils elected from among village elders were empowered by this move to decide and implement development schemes for the welfare of an entire village. They usually undertook works like laying and maintaining village roads, establishing drinking water projects, running libraries and nursery schools and so on.

These councils (which were, in effect, formal administrative units at the lowest level) also had power to prepare budget and spend funds which came from house tax, profession tax, entertainment tax etc. which they were authorized to collect and use as per some norms. The local self-government department also allocated some funds for major works like digging canals and undertaking public health awareness campaigns. In short, the villagers became makers of their own destiny. This empowerment gave people confidence and a deep sense of responsibility and involvement which made all the difference in the outcome. The success of a village council, however, depended on its ability to ensure the confidence and cooperation of all people in the particular village.

Figure 0.1- local governance system



The gram sabha/ward committees (better known as ward sabhas) which is included in the Kerala Panchayathi Act was done so to include two main objectives like participative planning and administration. Kerala, in this case is a pioneer by passing a conformity act to provide a vast number of powers to them. Article 243(A) of the Indian Constitution states that Grama Sabha can exercise powers and perform functions at the village level as the Legislature of a state allows by law. It allows the state to define the powers and functions of it accordingly. Therefore, it would be easier for a large scale scheme like watershed programmes be implemented through this very structure where the IWMP has the block panchayath as the implementing agency and in WGDP, this structure with the gram panchayath help in formulating the various activities of the watershed area. In this context, gram sabha plays an important role in such programmes as they collate the needs of the community and also can work towards a possible solution.

Annexure -III

Western Ghats Development Programme (WGDP)

The genesis of this project came from National Development Council (NDC) wanted to adopt the area to work towards accelerated development of such important regions in the country with a view to bringing them on par with the other developed areas here. This region is identified by the Planning Commission, is namely Western Ghats, that lies in the states of Maharashtra, Karnataka, Kerala, TamilNadu and Goa. This plan for integrated development of this region was entrusted upon a committee comprising of the Chief Ministers of the above-mentioned states.

Its implementation in the Fifth Five-year plan did not include the accept of the participation of the beneficiaries in the area. Therefore, subsequent five-year plan has suggested in the participation of the beneficiaries in the area, as the Seventh Five-year plan which calls for socio-economic growth with preservation, restoration and development. It was also noted that the success of eco-conservation projects largely depends on the extent of public's participation in the planning process.

The relevance of guidelines in Kerala context:

- a) To integrate the implementation of the programme through the decentralised structure of the local governance system.
- b) To adopt the principle of “people participation”.
- c) The “participatory mode” for this programme in the activities of Watershed Community/
- d) To strengthen institutions like the – self-help groups, neighbourhood groups and user groups.
- e) Linking watershed programmes in the said region.
- f) To ensure sustainability of the durable assets created under this programme, and also to transfer ownership to the concerned local bodies.

As this programme not just relates to watershed and other attributes that would lead to better preservation of Western Ghats. The development component of the programme is divided into three kinds of activities namely,

a. Natural Resources Management

This includes activities for conservation and development of natural resources namely land, water and vegetation.

b. Production System Management

This component intends to test and demonstrate low cost technologies in agriculture and its allied activities like horticulture, agro-forestry, animal husbandry etc.

c. Livelihood Support System

It includes activities for the improving income through individual or group activities and micro-enterprises (Government of Kerala-WGDP,2014)

Integrated Watershed Management Program (IWMP)

It is a centrally sponsored scheme under the Ministry of Land Resources, Department of Rural Development, Government of India. In Kerala the scheme is implemented through Department of Rural Development. The main objective of IWMP project is judicious utilization of every drop of rainwater received, for domestic consumption, agriculture, horticulture, livestock rearing etc thereby attaining self sufficiency in drinking water, increase in employment opportunities, increase the standard of living etc. A holistic approach is envisaged in this programme. Unlike other watershed development projects here there is space for aiding livelihood activities, assistance for enhancing production system and provision for microenterprises.

Kerala is the only state where IWMP is being implemented exclusively and through the complete involvement of local self government organisations and involving maximum participation of local population right from planning through all stages of implementation and monitoring”(IWMP Kerala). As described above there are three category of activities – Natural Resource Management, Production System Management and Livelihood Support System. The only difference being that these are carried out.

It is in 1994 that, a Technical Committee under the chairmanship of Prof Hanumantha Rao, to assess the Drought Prone Areas Programme (DPAP) and the Desert Development Programme (DDP). They came out with several recommendations and formulated a set of guidelines that brought the above-mentioned programmes under a single umbrella. Hence the watershed projects taken up by Ministry of Rural Development (MoRD) from 1994 to 2001 followed these guidelines. In 2000, the Ministry of Agriculture revised its guideline intending to make it more participatory, sustainable and equitable (Guidelines for watershed programme, 2011, Govt of India).

As described in the Guidelines in 2011, there are some guiding principles

“Equity and Gender Sensitivity: Watershed Development Projects should be considered as levers of inclusiveness. Project Implementing Agencies (PIAs), must facilitate the equity processes such as a) enhanced livelihood opportunities for the poor through investment in their assets and improvements in productivity and income, b) improving access of the poor,especially women to the benefits, c) enhancing role of women in decisionmaking processes and their representation in the institutional arrangements and d) ensuring access to usufruct rights from the common property resources for the resource poor.

II. Decentralization: Project management would improve with decentralization, delegation and professionalism. Establishing suitable institutional arrangements within the overall framework of the Panchayati Raj Institutions (PRIs), and the operational flexibility in norms to suit varying local conditions will enhance decentralization. Empowered committees with delegation to rationalise the policies, continuity in administrative support and timely release of funds are the other instruments for effective decentralization.

III. Facilitating Agencies: Social mobilisation, community organisation, building capacities of communities in planning and implementation, ensuring equity arrangements, etc need intensive facilitation. Competent organisations including voluntary organizations with professional teams having necessary skills and expertise would be selected through a rigorous process and may be provided financial support to perform the above specific functions.

IV. Centrality of Community Participation: Involvement of primary stakeholders is at the centre of planning, budgeting, implementation, and management of watershed projects. Community organizations may be closely associated with and accountable to Gram Sabhas in project activities.

V. Capacity Building and Technology Inputs: Considerable stress would be given on capacity building as a crucial component for achieving the desired results. This would be a continuous process enabling functionaries to enhance their knowledge and skills and develop the correct orientation and perspectives thereby becoming more effective in performing their roles and responsibilities. With current trends and advances in information technology and remote sensing, it is possible to acquire detailed information about the various field level characteristics of any area or region. Thus, the endeavour would be to build in strong technology inputs into the new vision of watershed programmes.

VI. Monitoring, Evaluation and Learning: A participatory, outcome and impact-oriented and user-focused monitoring, evaluation and learning system would be put in place to obtain feedback and undertake improvements in planning, project design and implementation.

VII. Organizational Restructuring: Establishing appropriate technical and professional support structures at national, state, district and project levels and developing effective functional partnerships among project authorities, implementing agencies and support organizations would play a vital role.” (Guidelines for watershed programme, 2011, Govt of India)

Annexure -IV

Legal documents	Year
Common Guidelines for Watershed Development Projects	2008 (Revised Edition 2011)
Operational Guidelines of Pradhan Mantri Krishi Sinchayee Yojana	2014
The Detailed Operational Guidelines of WGDP	2014