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**Student Study Project**

**A study of watershed development programmes in  
Mahabubnagar district of Telangana**

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**CERTIFICATE**

This is to certify that the present work titled "**A study of watershed development programmes in Mahabubnagar district of Telangana**" is the bonafide work of Gummakonda Ganesh, Balakrishna, B.Shekhar, G.Raviteja, K. Praveen kumar, under the supervision of R.Nagaraju, Lecturer in Economics, Dr. BRR Government Degree College, Jadcherla. No part of this work has been submitted to any other University for the award of any Degree.

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## **DECLARATION**

We hereby declare that the investigation results incorporated in the present project titled "**A study of watershed development programmes in Mahabubnagar district of Telangana**" were originally carried out by us under the supervision of R.Nagaraju, Lecturer in Economics, Dr. BRR Government College Jadcharla. No part of this work has been submitted to any other university for the award of Degree.

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## **Introduction:**

This introductory chapter presents the objectives, methodology, problem of the study and the rationale for the study against a brief overview of studies to focus on impact and farmers' participation in watershed programmes.

A watershed is defined as a drainage area, of which the run-off leads to a single water body, i.e., a river, a lake or a stream. Under Watershed concept, a Watershed is used as a unit for planning and management of land, water and other resources, and all inter-related factors such as physical, biological, technological, economic, socio-cultural, managerial etc., are considered together in a system framework.

Watershed Development (WSD) programmes in India offer a remarkable example of long-term institutional refinement aimed at reducing the gap between policy and implementation. Numerous guidelines were published since WSD programmes became a nationwide initiative in the 1970s, with the latest revision issued in 2011. These series of revisions reflect the lasting belief that WSD programmes are a promising policy instrument for livelihood improvement and natural resource conservation in the rainfed regions of India, but which have not yet delivered on their promises due to institutional flaws. Yet the need for a new institutional model has given rise to a polarised debate which has

opposed “policy design” to “policy implementation”.

The National Watershed Development Programme for Rainfed Agriculture in 1990 launched by the ministry of agriculture was an attempt at restructuring. Innovations to promote community participation and involvement of Non-Governmental Organisations (NGOs) were tried in a number of programmes under different ministries supported and funded by foreign aid agencies (Vaidyanathan.A, 2006:2984).

Watershed development as an approach to irrigation management system has gained momentum in recent years in Andhra Pradesh. The experiment has been successful in some areas and a failure in others.

Andhra Pradesh has been deemed as relatively successful in terms of WSD implementation (Springate-Baginski et al 2001; Reddy et al 2004). For some observers, success has meant the ability to attract and spend the largest budget, to implement the greatest number of projects or to cover the largest area. In the mid- 1990s, Andhra Pradesh indeed held the largest share in nationwide WSD programmes in India (Rao, C H H 2000), which is true even today. Among other significant initiatives, the state led a 10-year long massive programme for development of all degraded lands in Andhra Pradesh, initiated in 1997. An action plan was designed for this programme to develop ha.10 million of land by 2007, at the rate of 1 million ha a year. Five years later, about 2.7 million ha were covered making this plan one of the most significant of its kind in India (Sivanna et al 2007). In 2001, the Government of Andhra Pradesh also created the Water Conservation Mission and launched the Neeru-Meeru campaign (Water and You) to create awareness and provide incentives for citizens to save water.(Floriane Clement and Suvarna Chandrappagari, 2014)

Andhra Pradesh enjoyed some institutional freedom to adapt the guidelines and adopt a more livelihood-oriented objective. For instance, in terms of institutional creativity, Andhra Pradesh was the first state to set up in 2001 dedicated agencies for WSD project implementation at the district level, the District Watershed Management Agency (DWMA) – a feature which was then acknowledged as instrumental in the delivery of WSD programmes by the technical committee in 2006, and heralded as one of the guiding principles for the 2008 Common Guidelines. The political context was an important factor affecting the implementation of watershed programmes in Andhra Pradesh, particularly from 1996 to 2004.

Building social capital was identified in the national study conducted in 2006 by the Parthasarathy Committee as a major factor that differentiated successful and failed projects (interview, Planning Commission, 2011) and more generally in academic literature as a key tenet of sustainability. Based on this finding the Common Guidelines allocated specific time and funds for the project implementing agency to establish a trust relationship with communities.

The guidelines however, do play an important role in defining the way Integrated Watershed Management Programme (IWMP) is implemented by assigning a role and responsibilities to different organisations and the relationship between national level organisations and the State Level Nodal Agency (SLNA). In the case of Andhra Pradesh, the Department of Rural Development has developed, over time, a particular relationship with the Department of Land Resources (DOLR).

The Watershed Development Programme needs to be designed to achieve the ecological and social sustainability. To meet this end, the development of an effective communication strategy directed at educating the Watershed Community about the importance of ecological sustainability in sustaining the economic well-being of individuals and groups within the Watershed Community should precede the subsequent planning exercise. Further, the strategies for encouraging and operationalising the collective participation of Watershed Communities should also be evolved.

The focus has now shifted to involving the people right from the planning stage by organizing them in the form of informal watershed development societies. People's participation is viewed as a dynamic group process in which all members of a group contribute to the attainment of group objectives, share the benefits from group activities, exchange information and experiences and follow the rules, regulations and other decisions made by the group. Need for people's participation is articulated in terms of efficiency, cost effectiveness, equity in distribution of benefits, sustainability and empowerment of people.

Several states in the recent past have come up with major policy and legal initiatives that have transferred some responsibilities of Irrigation Management from Government agencies to the Water Users' Associations (WUAs). The formation of these associations is now generally seen as the most effective strategy for ensuring farmer/users participation in management of water for irrigated agriculture. While most of these WUAs have been founded under Government resolutions, some states have done so through enabling laws. For e.g. Andhra Pradesh has enacted the Andhra Pradesh Farmers' Management of



Irrigation Systems Act, 1997 that provide constitution of farmers' organizations and transfer of management of irrigation systems to them. Some states like Goa have provided for farmers' associations by amending their Command Area Development Acts. Other states have adopted the principle of participating irrigation management through Government resolutions and orders. While in some states fixing of water charges have been kept outside the purview of the WUAs, in other states like Gujarat the WUAs have full freedom to decide the water rates and role of water from the beneficiary farmers.

Apart from the WUAs, Watershed Associations may also be briefly looked at for the kind of participatory structures they have created.

The 1994 guidelines for watershed development issued by the Ministry of Rural Development (the guidelines has since been revised in 2001) made it very clear that people have to both contribute and then derive benefit directly from watershed management. In this sense, watershed programme is essentially an in site development programme where optimum harnessing of indigenous technology becomes a critical input. Without doubt collective action-through better dissemination of information and adoption of a participatory approach is a key to encourage local initiatives to invest in watershed programmes. It has rightly been said that "the single most important factor accounting for the positive impact of watershed development under the Government sponsored programme in different parts of the country is community participation and decentralization of programme administration made possible under the new guidelines. However, people's participation is highly inadequate for sustaining this development, especially in areas where the programme has proceeded too fast by fulfilling the targets for completion of works without waiting for the required institution - building and leadership formation at the grass roots level.

The Ashok Mehta Committee Report, 1978 also saw the role of mandal panchayats in works relating to land shaping and water management. The watershed guidelines also provide a pervasive role for the panchayats by making the Zillah Parishad, Panchayat Samiti and the Gram Sabha responsible for supervision, evaluation and monitoring of the watershed programme at the district, block and village levels. In fact, the revised 2001 guidelines for watershed development says that the Chief Executive Officer shall be a member of the District Watershed Development Committee and further that the "Panchayat Raj Institutions (PRIs) shall have the right to monitor and review the implementation of the programme". Besides, as per these guidelines, at the village level, gram panchayat shall be fully involved in the implementation of the programme, specially the community organization and training programme. It may also use its administrative authority and financial resources to support and encourage the formation of Self Help Group/User Groups. In addition, watershed action plan should have the approval of the Gram Sabha and it should be a part of annual action plan of the Gram Sabha.

### **Statement of the Problem**

Various studies on the impact of watershed-based technology in agriculture reveal that the impact of the programme on the cultivated area, irrigated area and cropping intensity has been positive. There is improvement in yield in all the crops grown in the watershed areas. Studies on the impact of watershed programmes on crop yields, assets, employment, income, cropping pattern and animal husbandry, in general, indicate that livestock holding capacity of the watershed areas has increased. Almost all the studies revealed that dairy activity has increased in the watershed areas due to the availability of fodder ( Arijit Roy, 2013; Subhash Chand, A.K. Sikka, Rajkumar S., P.Sundrambal,M.J.Sam and M.Madhu, 2010; Papiya Chakrabarty, Hre Ram Tewari and Madan Kumar Jha, 2009; Jain A.K, 2008; Panda B.K, R.K.Panda and P.Sarangi, 2007; Ratna Reddy et. al, 2006; Mathew

Kurian, Ton Dietz, K S Murali's, 2003; Kulkarni, B.N. et. al 1999;

### **Rationale for the Study**

The implementation strategies for watershed development programmes are yet to take a firm shape. Virtually among all the development programmes considered watershed is the focus of planning. It is noticed, over the period of implementation, one major shortcoming is people's participation. It has now been recognized by one and all that the success or failure of any programme, be it environment, afforestation, soil and water conservation, drought prone area and special area development programmes depends on the level of people's participation (Vimal Kishor,2001).

Thus strategies, which focus on effective communication between the planners, administrators and the Watershed Community on one hand and among different interest groups within the community on the other, would have higher probability of success. Similarly, the rules of individual and group behaviour vis-à-vis harvesting of the benefits from the common village resources, need to be devised and institutionalized for operationalizing the participation. Formation of 'Watershed Management Committees' has been increasingly used for operationalising the participation of the rural Watershed Communities with success. Designing the in-built mechanism for intra group dispute settlement in such micro Watershed Management institutions is also a necessary requirement for sustainability of the institution itself in the long run. These strategies can be operationalised by employing Rapid Rural Appraisal (RRA) or Participatory Rural Appraisal (PRA) techniques. However, all these strategies are focused on the issue of sharing of joint costs and benefits from the village common lands on which the village community as one group has lawful control. In case of government forest lands, people's participation would need distinct policy changes favouring greater role for the village communities in the forest re-

vegetation and distribution of gains thereof.

Watershed development is a multi-disciplinary programme. The issues involved are both technical and non-technical in nature and are thus complex. However, studies reflecting on this aspect are rather limited. As the focus of the present study is on the impact as well as farmers' participation in watershed development programmes attempt is made to present a brief overview of the limited studies in the area. This is considered desirable to set the tone for the study as well as formulation of objectives and methodology.

In a study by Srivastava it was observed, "... watershed approach has been beneficial, it has yet not ensured the people's participation on a large scale..... various evaluation studies and our observations in the field studies indicated that these projects are suffering from the problems of lack of active participation of people, inadequate organisational and technical support and sound procedure particularly for field functionaries for management" (Srivastava, 1999, 384).

Programme Evaluation Organisation (PEO) of Planning Commission as well as World Bank listed the following as the main drawbacks to people's participation:

- Lack of participation especially from women and youth, minimal involvement of panchayat Raj institutions and local level voluntary organisations continued to persist in all watersheds.
- State/District/ Watershed level committees did not function in most of the projects.
- Motivation and training for local organisers including mitra kisans and gopals has been woefully inadequate (Sanjeeva Reddy and Prasada Rao, 1999).

Studies on watersheds in Telangana (Andhra Pradesh) are few and those with focus on the impact and farmers' participation are still limited. However, as they reflect on different dimensions of the functioning of these bodies, an attempt is made to take note of the findings of these studies.

An indepth study at grass roots levels will give a clear picture of peoples participation and impact on the beneficiaries and throw light as to what and how the programme can be improved further to attain its professed goal. This research is an attempt to address that need.

### **Objectives**

The major objective of the study is to compare the impact of watershed programmes on farmers' belonging to Scheduled Tribes and Backward Classes in Nalgonda and Mahabubnagar districts of Telangana State.

The Specific Objectives of the Study are:

- To analyse the socio-economic characteristics of sample farmers in Nalgonda and Mahabubnagar districts.
- To assess the impact of watershed development on sample farmers in the study area.
- To examine the nature and extent of farmers' participation in watershed development in the study area.
- To identify the factors responsible for the variations in farmers' participation in watershed development programmes in the study area.

- To suggest ways and means to improve farmers' participation in places where it was lagging.
- To suggest policy intervention needed to enhance the quality of watershed development programmes in the rural areas.

## **Hypotheses**

The main objective of the programme is to provide irrigation facilities to the dry land areas which increases ground water table, productivity, yield per hectare, crop intensity, fodder for cattle, firewood etc., Since the watershed has completed more than four years of implementation in the sample districts of Nalgonda and Mahabubnagar. And it stood successful in the former case and it is better (not failure) placed in the latter case in implementation of the programme in both the districts in the year 2008-09, those were selected for intensive study.

The following hypotheses have been framed and tested are:

1. In this set of analysis, the sample farmers in two groups (Nalgonda and Mahabubnagar) differed in their socio-economic characteristics.
2. Farmers' participation rates in planning and implementation in both the sample watershed programmes in the districts are significantly different. The two sample groups have also different levels of farmers' participation for project maintenance 2008-09 to 2011-12.

3. The two groups' sample farmers differ in awareness and contribution for the asset of the watershed and it is found to be more among farmers in Nalgonda district compared to Mahabubnagar district.
4. In case of constraints to participation and reasons for participation in watershed programmes, two groups differed but participation of different levels of farmers' in the implementation of the programme found to be predicted more among Scheduled Tribe farmers compared to Backward Classes.