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Farmers are Delighted and Nurtured their Land and Better Returns with Watershed Program-A Successful Intervention of Pradhan Mantri Krishi Sinchayee Yojana -Case Studies of Anantapuramu District

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A B S T R A C T

Govt. India has launched a special program for the development of rainfed areas by addressing constraints through an integrated approach that converges all development programs under different departments into a comprehensive natural resource management development plan and encourages their effective use, taking into account resources on the one hand and community demands, on the other hand, using watershed as a unit, to stabilizes the rural dynamic economy. This program is now known as Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) -Watershed which was earlier known as Integrated Watershed Management Programme (IWMP) and it is implemented across the state in batches. People's mobility has increased as a result of the desire to conserve every drop of rainwater across the watershed project. The results show that the department was successful in implementing the watershed programme with community involvement. The paper includes evidence from the beneficiaries' own experiences with the Anantapuramu district's watershed programme.

Introduction

With an area of 19 lakhs and 13 thousand hectares, the Anantapuramu district in Andhra Pradesh has the largest territory. The district is made up of 63 mandals. Because this area receives less rainfall (500 mm), there are fewer usable water resources. Crops grown in the region include groundnut, rice, cotton, sesame, and sugarcane, as well as mango, lemon, and guava. Regular rainfall is less than the mean annual rainfall, and groundwater is insufficient, causing problems with residents' daily drinking and irrigation water. Similarly, migration and fodder shortages were more common in other areas where there was no

work due to the drought. To address these issues, the central government launched a comprehensive watershed programme in 2008. The Watershed system is being implemented in Anantapuramu district as part of the Prime Minister Krishi Sanchai Yojana (PMKSY) with the support of central and state governments to improve conditions for the rural community and farmers.

Study Area

The present case studies are deals with the impact evaluation of 16 projects under Batch-IV in Anantapuramu district which was initiated during 2012-13 and completed in 2019-20. The district lies, in the SW corner of the state of Andhra Pradesh, between latitudes $13^0$41' to $15^0$14'N and longitudes $76^0$47' to $78^0$26'E. Watershed Development under Batch-IV projects is undertaken in 16 mandals through 16 projects.

Materials and Methods

The successful watershed intervention was gathered through in-depth interviews with watershed beneficiaries in the batch-IV project area of Anantapuramu district.

Watershed programme achievements

There are 16 projects covering an area of 67,800 ha, consisting of 65 micro-watersheds. These micro-watersheds are spread over 166 habitations with a total of 28,315 households in Anantapuramu district. These projects have been developed in accordance with the guidelines issued by the National Rainfed Area Authority under the Ministry of Rural Development, GoI. The changes that have taken place have been documented by success stories and few of the stories are presented in this paper. The watershed programme is implemented in accordance with the ridge to valley principle, with public participation in natural resource planning and development. Farmers benefited from drainage line treatment, avenue plantation, hillock greening, block plantation, and livestock improvement as a result of green fodder cultivation.

Agriculture and horticulture are facilitated during the winter and summer seasons with drip irrigation and sprinklers to mitigate water scarcity. Farmers' living standards were also raised as a result of increased water resources and advanced irrigation methods.

The Watershed programmes have been successful because of the collaboration of government agencies such as the Departments of Agriculture, Animal Husbandry, and Horticulture. Milk production has increased as a result of veterinary camps, artificial insemination, and mineral mixer feeding coordinated by the animal husbandry department. This enabled people to use dairy as a secondary source of income. Changes in agricultural production are given high priority in this programme.

This has aided farm profitability by encouraging farmers to use resources wisely. Small-scale farmers have benefited from low-cost inputs and high returns. Improving livelihoods is critical for everyone, but especially for poor families. In light of this, the Watershed programme has made an important contribution to improving the livelihoods of poor and needy disadvantaged families.

Numerous initiatives have enabled watershed projects to protect and restore natural resources. Greening of hillocks is an example of restoring plant glory through contour trenches and drought-tolerant plant species on barren hills. Rural community were overjoyed to see greenery on the barren hillocks and their former glory thanks to the Rural Development department's assistance.

Case Studies

Farmers are Delighted and Nurtured their Land and Better Returns with the Repair of the Check Dam

Lakshumapalli Micro watershed is located in Lakshmipalli Gram panchayat of Yadiki Mandal in PMKSY-Watersheds, Anantapuramu district. The watershed is located between latitudes 15°06'45" to longitude 77°49'40" at ridge point and between latitude 15°06'45" to longitude 77°49'47" at valley point. Lakshumapalli is at the distance of 15 km from its mandal head quarters and 80 Kms from the district head quarters. This watershed is located at an elevation of 399 m above the MSL. Highest point in the watershed is 289 m above the MSL. The total geographical area of the Micro watershed is 1400 hectares and net treatable area is 670 hectares. The average annual rainfall (5 years) in the area is 421 mm. There are 3 no. of habitations in the Micro watershed. The Major streams in the Watershed are gundam vanka. At present this village is having 2539 population with all communities.

The village is totally dependent on agriculture like any other state village, with the marginal farmers at household level 55 and the small farmers 99 and the large farmers 44 and the landless labourer 271. The land of Lakshumpalli is very fertile and available to the tune of 391.07 ha. But not all the land is under cultivation due to lack of irrigation facilities. The lands of Lakshumpalli are very fertile and available to the tune of 391.07 Ha. But all the land is not under cultivation due to lack of irrigation facilities. The project consists 9 water harvesting structures out of which, three are MP tanks, 3 check dams, 1 Dug Out Pond, 1 PT and 1 MPT. Prior to the watershed project, there was no increase in groundwater, although there were PT, MPT, Dug Out Pond and other structures such as check dams. The main reason is that these structures are not properly maintained to conserve rainwater and help to increase the ground water table, which will help to generate water in the bore wells.

This has resulted in little irrigation of agricultural land, and most of the villagers are landless workers. Due to the lack of rainfall, small and marginal farmers are unable to cultivate their land, which forced 546 landless workers to migrate to other districts and states for their livelihoods. In view of these situations, the education of children and the health of elderly people is becoming a questionable.

Some of their land comes under cultivation after the activities of the watershed. During the field assessment, the user group associations identified one of the old check dam near the village farmers' fields. It required repairs because the check dam does not hold water.

They took up the issue with the WCC, which suggested that they submit a proposal to repair the check dam. The user group submitted a repair proposal during April 2015. In the years that followed, the repair work took place and these check dams were able to hold the water. The villagers could experience improved ground water levels in the vicinity of agricultural fields. Farmers are delighted and nurtured their land and better returns with the repair of the check dam.

Farm Pond Changed Ramudu's Life In Sangal Mws

Sangala Micro watershed is located in Sangala Gram panchayat of Bathalapalle Mandal in PMKSY-Watershed project, Anantapuramu district. The watershed is located between latitudes 14°25'05" to longitude 77°49'13" at

ridge point and between latitude 14°27'26" to longitude 77°55'02" at valley point. It is at the distance of 16 km from its mandal head quarters and 42 Kms from the district head quarters. The total geographical area of the Micro watershed is 1630 hectares and net treatable area is 1310 hectares.

The average annual rainfall (5 years) in the area is 505 mm. There are 3 of habitations in the Micro watershed. At present this village is having 2835 population with all communities.

In the year 2012-13, the Watershed Scheme was sanctioned for Sangala village. In this village, the digging of farm ponds by a missionary under the NRM was initially undertaken. Construction of a farm pond provided the basis for a farmer from a marginalized group called Ramudu to lead a better quality of life. He is a marginalized farmer and depending on rain - fed agriculture cultivation. Except the rain, he seems to have no water source entering his field.

He used to harvest rain depended crops like jowar, groundnut, millets, green gram and Bengal gram. He began to see a significant change with the construction of farm pond in his field with availability of water and dependency of alternate income sources is reduced. Earlier, he used harvest crops during rainy season and the rest of the time he and the family used to go for labor in others fields and sometimes to migrate other villages for livelihoods. Even one crop is also difficult to get if there is no short fall of rain and other climatic changes.

Life changing movement in his life occurred with the selection of his village for watershed project. He was realized the usages and benefits through the watershed officials and their activities about the importance of watershed and its significant in the overall development of villagers. So, he was attended a workshop conducted by the watershed team at Cluster Livelihood Resource Centre, Dharmavaram. In that workshop, they taught us how to organic farming as well. With these inputs from the watershed officials and team, he was also started harvesting organic farming in his field. With of this, he stared to see increase in water table due to construction of farm pond and started harvest crops by using the water.

The farm pond is not only using for agricultural crops but also for cattle's, and other animals like birds as drinking water source. With these multiple usages of farm pond, farmer Ramudu is also not migrating to other villages any more. With the developments in his life from dependency to independent he thanked the watershed scheme and the officials for the help.

Threshing Floor Construction Has Helped Farmers to Protect Agricultural Production

Agriculture is a complete activity starting from cleaning the land to selling the agriculture yield for the benefit of farmers is wholesome process with various stages.

Until unless farmer is benefited, the agriculture process is incomplete venture. One of the important activities is cleaning, drying and grading the agriculture product is very important where farmer would realize his or her hardship. It is very common phenomena on the roads of the villages, farmers put their products for drying and cleaning after the harvest.

Fig.1 Location of Projects Selected under IWMP Batch-IV in Ananthapur District

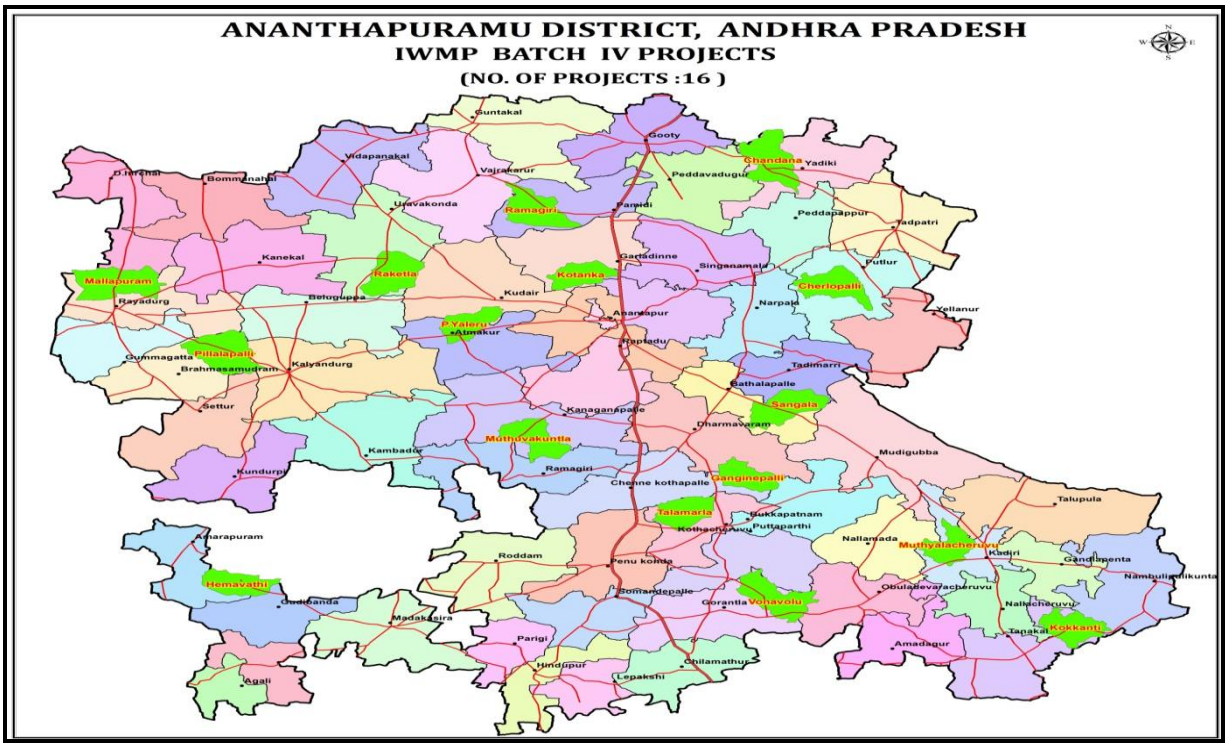

Fig.2

Fig.3

Fig.4

Threshing floor is important need for any farmers especially for small and marginal farmers. The big farmers could afford threshing floor on their own, or could do on any other safe place for cleaning, drying and grading their agriculture products. It is often

noticed that small and marginal farmers suffer in cleaning their products and lose some of their products while doing on the public places. Threshing floor ensures clean, hygienic products.

Obulapuram Micro watershed is located in Obulapuram Gram panchayat of Bathalapalle Mandal in PMKSY-Watersheds, Anantapuramu district. The watershed project sanctioned during 2012-13 fiscal year and started with sensitization, awareness campaigns such as kalajathas, group meetings, door to door campaign, slogans and wall writings etc. In getting confidence of villagers a series of meetings were conducted with GP members, VOs and discussed about the implementation of IWMP program. User groups were also formed for every 100 Ha area. Grama Sabha was conducted Gram panchayat office (Village) and selected one person to have threshing floor.

The watershed of Obulapuram poised to improve irrigation facilities from 1702 hectares and 1402 hectares are marked after treatment of lands and after land treatment, construction of check dams, dug out ponds irrigation facilities were improved and some of the waste turned into cultivable land. The major crops of the village are paddy, raagi, jowar, pop corn and pigeon pea including vegetables and all crops need a place for cleaning, drying and grading. The user groups and gram sabha proposed threshing floor collectively in the gram sabha to a person called Masthan Vali in the common land of the village near to agriculture fields. The proposal was approved and constructed under the monitoring of WCC.

In the words of A. Chendraidu, "We used to face lot of challenges to dry our agricultural production without proper space to dry them especially in the rainy and winter seasons. With the initiative of threshing floor by the watershed project in the village, we are happy to have it and all our fears to protect the grain removed with the construction of threshing floor". He also conveyed his heartfelt thanks to watershed team and officials in the project area. During the harvesting season of the year, threshing floor made available for use, the small and marginal farmers used the asset to dry their product such as paddy, jowar and various millets.

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