



RESEARCH ARTICLE :

A study documentation of cases on natural resource management of watershed farmers of Andhra Pradesh state

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SUMMARY : The nature and status of natural resources play a pivotal role for sustainable yields in various crops. The potentiality of these resources especially like soil and water is decreasing in alarming propositions, there by effecting farming situation as well as crop production both at micro and macro level. The study was focused on documentation of 3 cases on implementation of NRM activities under watershed management programme. Three cases were documented selecting one case from each sample district namely Mahaboobnagar, Ananthapur and Prakasham districts of Andhra Pradesh state. From the three case studies it was concluded that watershed programme was the only best solution to meet the needs of dry land farmers. The farmers fail to utilize to the fullest extent the technologies to overcome the drought and suggested adopting NRM practices not only in arable lands but also in non-arable lands.

KEY WORDS :

Docomentation,
Management

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BACKGROUND AND OBJECTIVES

The nature and status of natural resources play a pivotal role for sustainable yields in various crops. The potentiality of these resources especially like soil and water is decreasing in alarming propositions, there by effecting farming situation as well as crop production both at micro and macro level. The isolated approach of natural resource management does not yield expected results whereas community based management derives maximum benefits to the farmers in

terms of soil, water and moisture conservation for sustainable use of these resources for better crop production. There is every need to gauge the degree of Natural Resource Management behaviour of the farmers for their sustainable use. Keeping this in view the present investigation entitled as “A study on cases on Natural Resource Management of watershed farmers of Andhra Pradesh state”

RESOURCES AND METHODS

The state of Andhra Pradesh and the

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three regions *i.e.* Telangana, Coastal Andhra and Rayalaseema and from each region one district *i.e.* Mahaboobnagar from Telangana, Prakasham from Coastal Andhra and Anathapur from Rayalaseema were selected purposively. From each district two IWMPs, from each IWMP area one mandal, from each mandal four villages and from each village ten watershed farmers were selected randomly, thus a total of six (6) IWMPs, six (6) mandals, twenty four (24) villages and two hundred and forty (240) farmers were considered as sample for the study.

OBSERVATIONS AND ANALYSIS

The results obtained from the present study as well as discussions have been summarized under following heads :

Case 1 :

Case on conserve water for a better life :

Bio-data :

Bandari Dasu, 48 years old, is a resident of Marella village in Mundlamuru mandal of Prakasham district. He was educated upto middle class and belongs to very poor family.

Earlier scenario/practices :

He led an impoverished life even though he owns seven acres of land, because six acres were dry, half an acre was fallow and only half an acre was fit for growing paddy. He sunk a borewell up to 250 feet in his field but it has failed and not a drop of water is seen. He remembered the earlier hard days when he and his family members struggled very much to get daily food. Mr Dasu and his wife were working as wage earners to maintain their family, even though it was not sufficient to fulfill the needs of his family members.

Interventions under watershed :

After the introduction of Marella IWMP during 2012-2013, by the Government of Andhra Pradesh, he became one of the beneficiaries and actively participated in many meetings and training programmes in his village as well as outside. They formed self-help groups and user groups in the village. Under NRM activities check dams, check walls, boulder removal, farm ponds, dugout ponds, percolation tanks, vegetative barriers, stone bunds and plantation works were constructed. During the



During



Percolation tank constructed by IWMP at Prakasham district in the fields of Bandari Dasu



After

Case I : Conserve water for a better life

programme period he became an active member of watershed association. Because of his keen interest and innovativeness the watershed officials nominated him as watershed user group leader. Bandari Dasu gave half an acre for the construction of a percolation tank. It was 295 feet long, 12 feet wide and 6 feet high. This cost of the tank was only Rs.22, 000. It was constructed in 20 to 25 days using a 15-person labour force. A similar percolation tank, if constructed as per the Panchayat Raj Engineer's estimates would have cost Rs.1 lakh.

Improvement made after intervention :

After the construction of the percolation tank Bandari Dasu land became irrigated. The bore well generated water. He was able to cultivate paddy on five acres and cotton and red gram on two acres each. The yield from the paddy both in the rabi and kharif seasons put together is 50 quintals and 10 quintals of cotton and 4 quintals of red gram are produced. He did grow vegetables in summer. Though this percolation tank has been constructed in Bandari Dasu's field it helped not only him but other farmers in the command area too. Earlier, floods would have damaged the crops, but now this percolation tank stops all the runoff water and facilitates groundwater percolation. Thus 10 borewells downstream have been replenished with adequate water and 40 additional acres of land was irrigated. The fields of small farmers like B. Chandrayya, D. Narsayya, Beerayya, A. Narsayya, B. Mallamma, K. Veerayya, D. Mallayya, D. Abbayya and J. Uppalayya – which were adjacent to Bandari Dasu's field have also been benefited. Bandari Dasu's wife Sattemma joined the gouri self-help group. She too habituated to save money regularly every month. She has purchased a buffalo and 4 bulls, and repays the loan every month. The couple had a secure future because they have an assured livelihood.

Lessons learned :

He opined that watershed programme was the only best solution to meet the needs of dry land farmers. The farmers fail to utilize to the fullest extent the technologies to overcome the drought and suggested adopting NRM practices not only in arable lands but also in non-arable lands. He felt that villagers have not reaped the rich harvest from watershed programme because of groupsim and politics in the villages. Now, Mr. Dasu is satisfied with the way of life and the agricultural activities.

Case 2 :

Case on how water changed Venkatanarayana's life:
Bio-data :

Water is not just a basic necessity of life. It is also critical for development. The critical role played by the water, is amply illustrated in the story of Venkata Narayana of Ellutla village in Putlu mandal of Ananthapur district. Narayana and his wife Gouri lived together with his son and daughter.

Earlier scenario/practices :

He had 15 acres of land, of which 2 acres were irrigated by a bore well and 14 acres were rainfed. As rainfall in the region was scanty, he could not sustain the agriculture. To fend for his family, he was forced to sell off 4 acres of his rainfed land very cheaply. On the remaining land, the harvest was good only when there was sufficient rain. On the land irrigated by the bore well, he cultivated one crop of banana and vegetables in summer. On the rainfed land, he grew jowar, red gram and groundnut. From the sale of this produce, he made a profit of Rs.7000-8,000. This was insufficient for further cultivation and he had to incur debts of Rs.30, 000 on the land. In addition, he was diagnosed with kidney stones, which meant that he had to take a further loan of Rs.40, 000 towards treatment. He was up to his neck in debt.

Interventions under watershed :

At that time, the watershed development programme was initiated in his village during 2010-2011. The watershed committee advised construction of check dams at appropriate places and one such spot lay in Narayana's field. But some villagers misled Narayana about check dams. They told him that constructing the check dam would result in cattle being drawn towards it and consequently, his crops would be trampled. Narayana refused to allow a check dam to be built on his field. A check dam was then constructed at another location in the same village. Once Narayana, while seeking work as a farmhand, happened to visit the place. He was surprised to see water in the wells surrounding the check dam and green crops growing around. He realized his mistake and put forward a request to the watershed committee to construct a check dam in his field as well. The watershed committee, through voluntary participation of labour, then constructed a check dam in his field. That year (2013) the rains were very good and there was adequate water in his well under the check dam.

Improvement made after intervention :

He cultivated banana as the first crop in 8 acres and vegetables as the second crop. As there was sufficient water, he was able to bring another acre under cultivation. Not only did he plough another acre of land in the upper area around the well, but also irrigated it through pipelines and grew tomato on it. For the past two years, with the help of his family members, Narayana has cultivated two crops per year. He has not only cleared all his debts, but also saved Rs.50,000. His wife provides him with additional income by selling vegetables. Subsequently the family lead a better life with good food, better clothing, children's education and can even afford to celebrate festivals and other occasions.

Lessons learned :

“The watershed changed our lives. From being deeply in debt, our family can now look forward to earn at least Rs.2 lakhs in the next two years,” says a proud and successful Narayana.



Check dam constructed by the IWMP at Ananthapur district in the fields of Venkatanarayana

Case II : How water changed Venkatanarayana's life

Case 3 :

Case on watershed Ramesh :

Bio-data :

Ramesh was a small farmer in Savigudem village of Wanaparthy mandal of Mahaboobnagar district. About 45 years old, Ramesh studied up to IVth standard and maintains a big family of 10 members.

Earlier scenario/practices :

He had 5 acres of dry land. The land was quite undulated with fairly uneven topography giving no scope for farming. Most of his land was severely eroded and the land was poor in fertility. With all unfavourable characteristics of soil, Ramesh grew local varieties of castor, sorghum and groundnut in his field. The crop yields were quite low to maintain his family earlier. He was fed up with the land and lost interest in farming.

Interventions under watershed :

When the watershed officials first visited his village and consulted him in the year 2010. They explained the importance of soil and water conservation structures to solve his problem. He was inspired and gladly offered his land for carrying out soil and water conservation structures. He adopted the stone bunds, levelling, graded bunds, gully plugs, mini percolation tank, vegetative barriers (kalabanda) in his field in addition to farm pond.



Vegetative barriers (Alovera plant) established with the support of IWMP at Mahabubnagar district in the fields of Ramesh



Mini percolation tank constructed by IWMP at Mahaboobnagar district in the fields of Ramesh

Case III: Watershed Ramesh

Improvement made after intervention :

These soil and water conservation measures helped him in bringing the entire area under cultivation. He was able to develop irrigation potential for four acres of land during *kharif* and *rabi* seasons. On the advice of watershed authorities he planted mango in some part of the field. He also planted forest species along the borders of the field.

He actively participated in meetings and extension activities conducted by the officials. He also inspired the fellow farmers to participate in the programme. He involved in meetings to discuss about responsibilities among user groups for sharing of benefits coming from community lands.

Lessons learned :

Ramesh's active involvement and commitment to watershed development programme was so much that he was identified as "watershed Ramesh" in the village and surrounding areas. He expressed that he had served the people through the programme and he was much satisfied person in the village now.

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