

Watershed Development – An Oasis

Water is a scarce resource for farmers in Anantapur. The district is situated in a rain-shadow area where it gets very little rain and even when it rains it does not rain timely and evenly to match the moisture needs of rain-fed crops. With land holdings of barely 1-5 acres, 90% of farmers are small and marginal farmers and their agriculture is completely rain-fed. About 80% of them do not have bore wells or other irrigation sources. Normal annual rain is a remote dream in Anantapur. In 2016, the District received the lowest rainfall – only 206mm during crop season. Under these conditions watershed development is much needed lifeline for drought-prone regions like Anantapur.

Accion Fraternal's (AF) involvement in watersheds started in mid 1980's, long before government's watershed programs started on a large scale. Initially AF focused on conservation of soil, harvesting of rain water, improving vegetation and biomass. From mid-90's to early 2000's government started implementing watershed development programs on a large scale in many districts of Andhra Pradesh (AP). In 2008 Govt. of India and Govt. of Andhra Pradesh started Integrated Watershed Management Program (IWMP) on a large scale. Under this program some mega watersheds of about 7500 acres to 12,500 acres in Anantapur were identified for watershed development. Each mega watershed is subdivided into 3 to 5 micro watersheds. AF is the Project Implementing Agency (PIA) for 3 mega watersheds. They are: 1) Muttala mega watershed (4 micro watersheds); 2) Bandameedipalli mega watershed (3 micro watersheds); and 3) Kuderu mega watershed (5 micro watersheds). An area of 29,165 acres is proposed for treatment in 18 villages with a budget of Rs.141.7 millions.

National Bank for Rural and Agriculture Development (NABARD) had also funded 6 watershed development projects in Anantapur for which AF is Project Facilitating Agency (PFA). These watersheds are: 1) Garudapuram; 2) Mallipalli; 3) Papampalli; 4) Guntapalli; 5) Dasampalli; and 6) Battuvanipalli. An area of 15,775 acres is covered under these watersheds with a budget of Rs. 72.6 million.

The objectives of both watersheds are similar and have to be implemented in a participatory approach involving all sections of people. The broad objectives are as follows : 1) Conserve soil, water and improve vegetation resources (NRM) in the village; 2) Promote Horticulture and Agriculture development; 3) Provide employment for labourers during the program and enhance rural employment opportunities on sustainable basis; 4) Recharge groundwater for agriculture, drinking water for humans and animals; 5) Provide credit for poor families to start off-farm and non-farm income-generating activities; and 6) Capacity building to promote institution building.

Each of these objectives entail a set of suitable activities and allocated funds within the watershed budget. Given the low rainfall and arid region, the central activity of watershed is to harvest and store as much water as possible from rainfall, following a ridge to valley approach covering forest lands, other common lands and private lands. Some of the common structures to store water are farm ponds, rock fill dams, dug out ponds, check dams percolation tanks, etc. This water is used recharging ground water, stabilising bore wells for irrigation, for drinking, to increase biomass diversity etc.

Yerragunta village is one of the IWMP micro watersheds in Bandameedapalli mega watershed. Conducting Participatory Rural Appraisal (PRA), social mapping and resource mapping are the standard procedures before starting any watershed work. Ramakrishna Reddy, a farmer in Yerragunta IWMP watershed, explains how it all started. *“We have a canal nearby but there were no water storing structures. Our agriculture was totally rain-fed and crop failures (droughts) due to lack of rain were common. AF officials came to our village and conducted an open meeting or Gram Sabha with all villagers and explained about benefits of watershed development, and also how it will be implemented in a participatory approach. We all participated in the meeting; later we visited the fields and decided about what kind of watershed development activities have to be implemented and where. We selected a Watershed Development Committee (WDC) on consensus basis of 13 members. Women and SC/ST other weaker sections were given importance in the selection of committee members. We elected a few persons to supervise the ongoing watershed works and report back to the committee. Taking up watershed development activities have provided employment for labourers. In fact many labourers still come from neighbouring villages also.”* One of the objectives of the watershed programs is to provide wage employment for poor and prevent distress migration. Many rain-fed farmers and labourers used to migrate seasonally to nearby cities like Bengaluru and Chennai for employment. Migration has been arrested in all watershed villages to a great extent due to the highly remunerative wage employment created by watershed works. Wages to workers are paid either from IWMP funds or from Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), depending on the activity.

Many villages in the project area have excessive amount of fluoride in water which makes it unsuitable for drinking. Water purifying plants were taken up in all 18 watershed villages, benefiting 3,800 households with a population of 15,000. Papampalli village in Muttala micro watershed is one of the beneficiaries of the water purifying plant. There are 170 households with a population of 664 in this village. Adinarayana, WDC member talks about it, *“Before the water purifying plant was installed, villagers had suffered with joint pains due to excess fluoride in drinking water (1600 ppm) and spent lot of money on the treatment. We (WDC) installed Reverse Osmosis (RO) water purifying plant as part of watershed activities. We employed a local person to operate the plant on part time, and pay him Rs. 2,000 a month as salary. Villagers can buy 20 litre water can for as little as*

Rs. 2.00. The money is deposited in a watershed management bank account, which is jointly operated by WDC members. The operator is paid and some amount is spent on maintenance & repairs. Now villagers are able to get safe drinking water at a minimum cost of Rs. 60 per month, which is far less than what they would spend if they buy the water from the market or even worse the treatment cost if they go to hospitals."

Rainwater harvesting at farm level in the farm ponds is a very important component in watershed activities. Rainwater is collected in farm ponds, stored and being used to irrigate the rain-fed crops during long dry spells between rains. Farm ponds and dug out ponds can be constructed even in small holdings of 1 or 2 acres of land benefitting small farmers. When farm ponds are lined with cement the water is stored for a longer period of time by preventing seepage. This technique has proved to be beneficial in saving the crops during crucial period of plant growth, especially in the case of groundnut-a major crop in this region. Check dams, percolation tanks and other water bodies help recharge bore wells. An additional 5,000 acres have been brought under cultivation due to increase in ground water as a result of rainwater harvesting structures in 3 mega watersheds. Venkateshwarulu a bore well farmer from Kuderu micro watershed says, *"After we constructed check dams, we noticed our bore wells were recharged and there was sufficient water for our groundnut crop. We started additionally growing vegetables like tomatoes also. Some farmers drilled new bore wells in their fields. There was sufficient water for our animals too. Working together in planning and implementation of watershed activities has increased bonding and solidarity among us and we became more confident of ourselves."*

Tree plantation in farmers' lands, block plantation, and fodder development in community lands are other important components of watersheds management. AF has selected tree species that are suitable for the climate of Anantapur as well as beneficial to the farmers and local environment. This initiative has multiple benefits. Trees such as custard apple, mango, goose berry and tamrind (for fruits) glyricedia, pongamia (for biomass) neem (for organic pesticides) ficus varieties like ravi (for fodder) are the usual species that are drought tolerant and have beneficial properties for farmers besides environment. Once the saplings grow, they provide assured income and other benefits to the farmer for a longer period of time. They provide green cover, fodder for animals and increase biomass. Trees such as mango, jamun, neem and tamarind have been planted in an area of 5,775 acres, benefitting 1520 farmers. WDC employs local villagers to water the block plantations. In Battuvanipalli village they planted mango trees in 600 acres.

Savings and credit activities enable women to avail credit for enhancing or starting new income-generating activities. Shakuntala in Muttala village took a loan to enhance family business of incense sticks making. *"My two sons, daughter and I work at home making incense sticks. Although we have the equipment and skill, we were always short on cash*

for buying the raw material. I took a loan of Rs. 20,000 and it helped us in buying raw material. Now we are able to increase the production.” Many women have taken loans for goat/sheep rearing, dairy and petty shops, etc. Nallamma from Papampalli village has taken a loan to purchase an auto and she operates it from Anantapur to Papampalli. Ramalakshmi in Goridindla village took a loan of Rs.30,000 to expand her saree business. She says her position in the family has changed for the better after expanding the business. All of them feel dependency on moneylenders has greatly reduced due to the availability of credit. Besides the obvious financial gains, these activities have helped women become confident in their abilities, increase their self-esteem and their status within the family. Many farmers took loans to purchase farm implements. They rent them throughout the year to earn additional income.

In Battuvanipalli village, a NABARD watershed, an amount of Rs.17 lakhs was given as livelihood loans while the watershed works were going on. After a few months some members started defaulting on their loans. After a mandal level meeting where the AF Director gave a serious message about the importance of repayment of loans, the watershed committee members worked hard on recovery of loans. After working relentlessly for 3 months they were able to recover the entire loan amount of Rs.20 lakhs with interest. Working together for recovery of loans, resolving conflicts among themselves had a positive effect on strengthening and uniting the committee members. There is a difference between IWMP and NABARD watersheds in handling livelihood funds once the watershed works are over. In IWMP livelihood funds are rotated through Village Organisation, whereas NABARD turns over livelihood funds to Mutually Aided Cooperative Societies (MACS). MACS is a cooperative, owned and managed by families themselves in the village to improve their economic and social betterment through credit, agricultural and marketing activities. Farmers, artisans, landless are members of MACS. They elect a governing body by consensus for operation and management activities of MACS. There is more involvement and participation from families as MACS is owned and managed by the villagers themselves.

AF facilitated formation of MACS in Battuvanipalli in 2014. MACS committee was formed with consensus of all villagers. Consensus is very important in any CBO for its functioning. It promotes cooperation and participation within the group for developmental activities. MACS committee was formed with 15 members. The committee followed the norms set by AF by having women members as majority; out of 15 committee members, 8 were women. Priority was given to SC/ST farmers as committee members. The impact of participatory management of MACS by the families can be seen in this village, where it has become a role model for other MACS. With the success of recovery of loans, members became confident in their abilities and they function together as a team. They formed by-laws for the operation of MACS, opened a bank account and implemented many village development activities successfully. As of December 2016, MACS has a revolving fund of

Rs. 24 lakhs with 152 loans and a fixed deposit of Rs.6.2 lakhs in the bank. Committee members hold a meeting every month. Choudakka, a woman committee member explains, *“Women take active part in discussion of loans and watershed works. We review loan applications and we consider applicant’s credit history before sanctioning the loan. After sanctioning the loan we physically go and inspect whether the applicant is using the funds for the income-generating activity she/he has put on the application. This ensures that they do not misuse the funds and have the capacity to repay the loan.”*

Ramanjaneyulu, Chairman of MACS eagerly shares, *“We evaluate individual loan needs and we increased loan limit amount up to Rs.50,000. We decided to do this as many villagers want seasonal agricultural loans or for purchase of goat/sheep. For this type of loan borrowers can pay only interest for 5 months and repay and entire loan in the 6th month. This short term loans will facilitate loan repayments as they can make lump sum repayments when they sell produce or goat/sheep. During 5th to 9th of every month our MACS office looks like a bank where people stand in line to repay their loans.”* MACS formed various sub-committees for village development activities such as drinking water plant, temple development committee, school committee etc. Village development committee is providing school bags to children with money from village development fund.

The loan recoveries in Battuvanipalli motivated MACS in other villages like Garudapuram and Mallipalli to work on their loan recoveries and they also succeeded in recovering old loans and turn over to MACS. Anand, another committee member proudly shares an achievement of MACS which increased benefit to all villagers. *“A windmill company wanted to establish wind mills in farmers’ lands for wind power generation and was willing to pay Rs. 9,000 a unit of wind mill. We negotiated with them and we were able to get a better rate of Rs. 12,000 unit for all farmers in our village without any mediator’s help. Whereas farmers in other (non-MACS) villages could not get that compensation.”* MACS of Battuvaripalli is thinking of processing and marketing agriculture produce. Achievements such as above show what people can achieve when they are empowered. Puttanna, a committee member asserts, *“When it comes to abiding by MACS rules and village development we all work together; there is no compromise.”*

Two factors majorly contributed to people’s participation in this village – 1) Facilitation and capacity building by AF; and 2) Leadership of MACS. AF played a major role in guiding the watershed committee and later MACS. Enabling and empowering farmers to make their own decisions and implement them has paid rich dividends. Now they are self-reliant and confident in their decision making skills. Having leaders whom people can trust and respect, who can influence positively and motivate others is very important for any village organisation to succeed.

Watersheds have changed lives of farmers in watershed villages of Anantapur in two ways. They have improved water resources, agriculture as a livelihood is stabilised, provided green cover and improved other rural livelihoods, which resulted in environmental, social and economic gains. Most importantly farmers gained unity, participation, decision making skills and confidence, the qualities important for development!