

# **Watershed Program- Contributing to drought mitigation in Anantapur District**

## **Land use changes from vulnerable seasonal crops to drought resistant perennial tree crops.**

In Anantapur District 90% of 11lakh acres of cultivated land is under rainfed conditions. The rainfed land is used for growing monocrop of groundnut. It is grown during monsoon as seasonal crop between July-November which is highly vulnerable for drought; resulting in only one or two crops in 5 years. About 90% of the rainfed farmers are small and marginal. This is the major cause for crisis in agriculture resulting in severe distressing conditions for rainfed farmers.

Watershed program activities in Bhattuvanipalli village of Kalyandurgam mandal brought significant change in land use since the year 2003. This village is a habitat for 197 families, mostly (>85%) dependent on rain fed farming. Watershed program with support from NABARD has been implemented by AF Ecology Center. The watershed program follows a participatory approach and focus on soil moisture conservation, rain water harvesting, vegetation development, Dryland Horticulture and additional livelihoods for the landless and other poor. It has brought much desired change in land use, besides impacting on Soil moisture conservation in farm lands, rain water harvesting bodies recharging the ground water, vegetation development across the watershed area, overall improving ecosystem and land productivity enhancement. In this short report the impact of rainfed horticulture is focused.

AF Ecology Center took up the rainfed horticulture activity with high priority under watershed program. AF Ecology Center firmly believed that perennial tree crops grown under rainfed conditions will mitigate drought and as well greatly influence the local ecosystem of the watershed area. The rainfed trees like Mango, Custard apple, Sapota, Tamarind, Jamoon etc. that are known for their resilience in harsh drought conditions can turn out to be a secure income source for the farmer. Additionally these trees offer enough green cover (which is much wanted) as source of instant biomass, serve as fodder for small ruminants.

AF Ecology Centre motivated the local farmers to grow tree crops which would ensure farmers coping capacity in drought years, provided the farmers ensure survival of young trees with pot watering for the first three years. 94 rainfed farmers came forward to grow tree crops in 475 acres. 36110 plants mainly mango were planted under watershed program with all care, following the set guidelines that start right from marking, pitting, staking and providing pot watering.

Generally there are three reasons why farmers would not come forward for taking up rainfed horticulture a) It has a long gestation period b) It is requiring high initial investment c) Pot watering and protecting the trees in the absence of assured source of water is big challenge. The support assured under watershed program for initial investment and particularly for pot watering encouraged the farmers to come forward for this program. However, when they grow

horticultural tree crops in their land, farmers can still continue to grow their seasonal crops like Groundnut in between the rows for next 5 years or more. There by no loss of seasonal crops.

Convergence with Government and RDT has resulted in increase in the acreage under dryland horticulture in another 240 acres with 16800 plants belonging 62 farmer families. Regular extension support for proper crop management and yield enhancement in the form of individual interaction and trainings provided by AF Ecology Center has been very helpful for the farmers.

“Our land used to get exposed to sun, wind and rain round the year reducing its fertility. Now because of green cover and the biomass our land started recovering. Besides Mango we continue to get our regular seasonal crops as intercrops in the same field” Bommanna, a farmer shared his experience with tree crops.

By now (2014) 17050 mango trees have started yielding and supporting about 100 farmers with regular annual income and mitigating drought impact on these farmers. The produce from these orchards is presold for agreed amount of money at flowering stage itself. The income ranged from Rs 45000/- for 150 trees to Rs.2,25,000/- for 600 trees based on size and yield of a particular farm. This program has assured farm income to the farmers and improved their living standard. It also added ecological benefits by the change in land use pattern. This land of about 700 acres belonging to more than 150 farmer families was all used earlier only to grow seasonal crop of groundnut as monocrop, which they continue to go as an inter crop with mango in between the rows. In next 3 years all the plantations will come for yielding and all farmers would have assured income and would be able to cope with droughts.

“I have witnessed contrasting situations in my life time, abundant availability of mango tree leaves for usage on auspicious occasions (like festivals, marriages etc) in my childhood and after 15 years I could not trace a mango tree for its leaves. This caused me both worry and astonishment. As how the things have changed for better now again, our village landscape is filled with mango gardens” Mareppa, resident of Bhattuvanipalli recollected.

The land use change as a strategy for drought mitigation under watershed program in Bhattuvanipalli village has motivated other surrounding villages and also positively influenced the policy of the State Government to take it up as a program for rainfed famers under its MGNREGA program. Now thousands of farmers across the District are accessing MGNREGS and converting part of their cultivated land to suitable tree crops.