

Pre-Monsoon Sowing

Ananthapur is the second most arid district in India after Jaisalmer of Rajasthan. Most of the agriculture in the district is rain-fed. Due to climate change, numerous challenges like environmental stress, increased temperatures, delay of rainfall leads to reduction of crop production percentage by the local farmers while losing their livelihood. Pre-Monsoon sowing is one of the important coping strategies in response to overcome immediate threats due to delay of monsoon particularly drought.

The **pre-monsoon sowing** will pick up with the onset of south-west **monsoon** (June-September), which delivers about 70 percent of the country's annual rainfall. This shall be done in right time for getting maximum yield. Pre-monsoon sowing, a 10-day prior sowing before anticipated monsoon is done for better production, than late sowing with about 15 per cent yield advantage is achieved. This avoids long crop duration, poor plant stand, decreased growth of the crop, more weed infestation and higher sterility percentage of grains. As dry system is followed in rain-fed uplands and semi-dry system in rain-fed medium and lowlands, their optimum sowing time depends upon the onset of monsoon.

Climate Smart Village

In order to cope with the change in climate in the drought prone regions of Ananthapur district in the state of Andhra Pradesh, APMAS is implementing a project, '**Climate Smart Village**' (CSV) in two mandals viz. Nallamada and Gudibanda. The project is being funded by AEIN Luxembourg and aims to promote affordable and replicable adaptation and mitigation practices to enhance livelihoods of vulnerable communities in the district of Ananthapur. 'Pre Monsoon Sowing' was promoted under this project mainly to improve the resilience of smallholder farmers and strengthen their efforts to withstand the overall impacts of changes in climate variability and long-term climate change.

The orientation was given to 40 selected farmers on pre-monsoon sowing method. Out of 40 farmers, 13 farmers came forward to experiment the method and each farmer sowed red gram, groundnut and millet seeds in about half an acre. Out of 13, 10 farmers were successful in getting better yields and three were not able to provide timely critical irrigation and mulching to the crop.

Pre-monsoon Activities

Activities	Why	When	How	Advantages
Seed Treatment	Controls pest and disease attack by soil	At the time of sowing	Treat seeds by using of Beejaraksha & inguva decoction	Control of pest and disease attack
Applying FYM	Incorporate nutrients to the soils	Before sowing/ during land preparation	Broadcasting	Adds nutrients to the soils and increases fertility
Mulching	Conserves soil moisture	After sowing	Groundnut husk or other husks	Conserves soil moisture and controls weed
Critical irrigation	Avoids wilting of the plants	After sowing, fruit formation	Drip or Sprinklers	For better quality produce
Spraying jeevamrutham	maintains nutrients deficiency	Germination stage	Spray once in 15 days of interval	Supplies the required nutrients to the plants
Placing yellow sticky traps	Controls pests	During vegetative phase	Install the traps in the field	Control common pests like aphids' white files & trips



Seeds



Seed treatment



Sowing



Mulching



Germination



Harvesting

The expenses and income details per acre are:

Materials	Cost (Rs)	Net Returns (Rs)
Millets	10,000	35,000-40,000
Groundnut	20,000	40,000
Navadhanya	15,000	40,000

Each farmer was supported with seed and mulching material from the project costing total of Rs.4250. Other costs related to land preparation, labour and harvesting were met by the farmers.

Padmavathi, a resident of Konkallu village in Gudibanda says *“the structure of the soil has improved and by covering the soil with crops for 365 days helps in reducing the air erosion. Year-round harvests were acquired by the farmers even during drought period.”*

Tippaiah Swamy from M.S. Tanda village says *“I have failed in this program due to missing the sowing date and delayed supply of life saving irrigation.”*

Pre-Monsoon Sowing is an important intervention in the Climate Smart Village Project and expected to provide following outcomes:

- Improves the infiltration and permeability capacity of the soil, which increases the moisture conservation capacity of the soil and plant roots can get moisture easily to grow
- Off season tillage increases water content of soils and reduces runoff. It also reduces pest and weed infestation.
- Alternate drying and cooling help to improve the soil structure
- Summer ploughing prevents the surface runoff i.e., soil erosion, improves moisture conservation hence refilling the water table.
- Improves soil aeration which helps to the multiplication of microorganisms. Due to this microorganism’s decomposition of organic matter resulting in rich nutrient available to the crops.
- Pests present will be exposed to sunlight due to turning the soil so that the pest is destroyed and also the spread is prevented.
- By avoiding the missing of the season, crop failures are reduced and assured quality yields and incomes to the farmers