

Water Resource Conservation in Cotton Cultivation through DILASA Project of Drip Irrigation



The DILASA project under UPNRM in Aurangabad demonstrates the benefit of transitional shift from traditional flood irrigation method to water efficient drip irrigation method coupled with better cultivation practices. The intervention is basically aimed at achieving water use efficiency, irrigation management, nutrient and pest management, creating market linkage, and to economically empower farmers.

PROJECT RATIONALE

The conventional irrigation practices was observed to increase the burden of water availability in already water scarce areas of Marathwada and was limiting the agricultural production in the region. Switching to efficient micro irrigation practices required cost inputs which in turn required the necessity of the financial support mechanism for farmers for its adoption. Drip irrigation method is considered as an effective intervention for reducing agricultural risks associated with the drought conditions.

PROJECT FACTS

UPNRM Loan	USD 0.26 Million (INR 15.5 Million)
UPNRM Grant	USD 0.01 Million (INR 0.71 Million)
Total UPNRM Support	USD 0.27 Million (INR 16.2 Million)
No. of Participants	400 + Small Marginalized Farmers
Project Duration	October 2010- December 2017

Project Approach

The DILASA project facilitates term loan for installation of MIS (Micro-Irrigation System) for cotton which has resulted in significant enhancement of the productivity. Besides financial assistance for drip irrigation, the farmers are given training on improved cultivation practices, water conservation, irrigation management, leadership trainings, and exposure visits. The project promotes adoption of integrated nutrient and pest management principles in addition to creating linkage with better cotton initiative for getting better cotton license for the farmers. Pipelines are laid to bring rain fed areas under cultivation and practice more crop cycles per year instead of mono cropping which was practiced during pre-UPNRM phase.

Other locally adoptable livelihood diversification activities like installation of a dehydration and processing unit of dry vegetables and spices, i.e., dried garlic, dried ginger, dried coriander, chili powder, etc. is promoted under the programme. As a result, farmers' losses related to fluctuating market prices of cotton is considerably reduced.

Impact of the Project

The project contributed significantly towards sustainable cotton production practices and improvement of the livelihood of its farmers. Key impacts include:

Economic Benefits:

- Increase in yield of cotton from 7-8 quintals in non-drip irrigation method to 15-16 quintals per acre.
- Water consumption savings to the tune of 35%.
- Average cost savings of Rs. 4000/- per acre as compared to non-drip cotton.
- Better Cotton Initiative (BCI) in project villages translating into higher price for quality cotton.

Environmental Benefits:

- Reduction in annual carbon emission to the tune of 719 kg of CO₂ per acre.
- Saving of the electricity consumption by 888 units of electricity per acre.
- Reduction in the use of chemical fertilizers through introduction of integrated pest and nutrient management
- Healthy root system of the crops to sustain the water stress conditions in long dry spells.



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