

# Sustainable Sugarcane Initiative (SSI): Use of Drip Irrigation in Water Intensive Sugarcane Cultivation



Sustainable Sugarcane Initiative (SSI) is an innovative credit-plus approach of NABARD which helps to integrate twin drip irrigation system with resource efficient sugarcane cultivation agricultural practices. It aims to promote sustainable and innovative set of agronomic practices that reduces ecological footprint amongst the sugarcane farmers and create market linkages with the sugar factories. The project is a boon for the small and marginal farmers due to better yield, reduced fertilizer and water use, and flexibility to do intercropping. The technical-cum-financial support provided to the project under the UPNRM has not only sensitised famers related to the scientific production system but also changed their mind set to adopt innovative practices for better yield and income.

## PROJECT RATIONALE

The conventional sugarcane cultivation is found to be seed, water, and space intensive. The issues like high input costs, disease infestation, low yields, varietal degeneration, drought and water logging are the major limiting factor for achieving optimum profits. The small and marginal farmers could not meet the seed money for installing drip irrigation system which is a major component of Sustainable Sugarcane Initiative (SSI).

## PROJECT FACTS

UPNRM Loan	USD 0.3 Million (INR 18 Million)
UPNRM Grant	USD 0.01 Million (INR 0.6 Million)
Total UPNRM Support	USD 0.31 Million (INR 18.6 Million)
No. of Participants	400-500 Small Marginalized Farmers
Project Duration	September 2013- September 2015

## Project Approach

The programme is being implemented under the Umbrella Programme for Natural Resource Management (UPNRM) by involving NABARD and sugar cooperatives of Maharashtra. The farmers are introduced and motivated to adopt SSI through accompanying grant component for the programme and facilitating exposure visits, subsidized seedlings, and organic manure.

Single eye budded seedlings were provided to the farmers for the first time from Vasantdada Sugar Institute (VSI), Pune. The farmers are also being encouraged under the programme to practice inter-cropping of soybean and groundnut with the sugarcane cultivation.

Major principles of SSI:

- Raising nursery using single budded chips
- Transplanting young seedlings (25-35 days old)
- Maintaining wide spacing (5X2 feet) in the main field
- Providing sufficient moisture and avoiding inundation of water
- Encouraging organic method of nutrient and plant protection measures
- Practicing intercropping for effective utilization of land

## Impact of the Project

The extent of area brought under the drip irrigation along with SSI cultivation is approximately 280 acres which is perhaps largest area among sugar factories in India. The field trials using twin interventions of drip along with SSI cultivation has resulted in fostering productivity from 60 MT/ acre of sugarcane using flood irrigation to improved yield of 92 MT of sugarcane.

### Benefits to the beneficiaries

- 100 % survival of transplanted saplings can be achieved with no requirement for gap filling.
- Increase in crop yield by at least 20-30%.
- Reduction in the cost of cultivation by at least 25%.
- Savings in weedicide and labour cost to the tune of INR 4,000 per hectare in SSI irrigated plots.
- Reduction in the cost of fertigation to the extent of INR 10,000 per hectare.
- Average savings of more than INR 88,000 per acre from plant cane alone.
- Increased sugar recovery by 0.25%-1.5% in the sugar factories.
- Water-use efficiency and savings to the tune of at least 50% thereby acting as an effective strategy to meet extended dry spell.



## National Bank for Agriculture and Rural Development

Plot No. C-24, 'G' Block, Bandra-Kurla Complex, Bandra (E), Mumbai - 400 051.

E-mail : [fsdd@nabard.org](mailto:fsdd@nabard.org) • Website: [www.nabard.org](http://www.nabard.org)