



## **Adoption of Subsurface Drainage Technology for Saline Soil Reclamation in Karnataka – An Economic Impact Analysis**

**R Raju<sup>1\*</sup>, K Thimmappa<sup>2</sup> and AL Pathan<sup>1</sup>**

<sup>1</sup>*ICAR-Central Soil Salinity Research Institute, Karnal-132 001, Haryana, India*

<sup>2</sup>*ICAR-Agricultural Technology Application Research Institute, Bengaluru-560 024, Karnataka, India*

*\*Corresponding author E-mail: R.Raju@icar.gov.in*

### **Abstract**

The farmers of Ugar Budruk village in Athani Taluk of Belgaum district in Karnataka have been facing a major challenge of soil salinity and waterlogging for more than 25 years. About 70 per cent of cultivable area of the village is affected by soil salinity and hence it is being partially cultivated or left barren for many years. With the effort of progressive farmers of the village and financial support from the Government about 925 ha saline land has been reclaimed through installation of subsurface drainage and about 650 farmers have been benefited with the reclamation process. The land reclamation cost has been estimated to ₹ 52,000 per hectare. The post reclamation study implied that after drainage approximately 77 per cent of the land became non-saline showing significant reduction in soil salinity. About 376 ha waterlogged saline area has been brought under cultivation. During post- subsurface drainage period the entire cropping pattern has changed and sugarcane has occupied about 70 per cent of the cultivated area. The additional increase in cropping intensity was observed to be about 24 per cent. The improved land productivity contributed to a remarkable increase in crop yield due to which farmers income has been increased by about 195 per cent. The benefit-cost ratio of sugarcane production increased from 0.54 before drainage to 1.21 after drainage, indicating 126.32 per cent increase. Majority of the farmers highlighted that improvement in land quality and yield increase was the major reason for adoption of the technology. However, some farmers reported that lack of institutional support and lack of adequate finance with them followed by lack of technical know-how were the major reasons for non-adoption of the technology.

**Key words:** Karnataka, Saline soil, Waterlogged area, Subsurface drainage, Impact analysis