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CUSTOMIZED OPTIMAL SALINE RESISTANT CROPPING POLICY: A CASE STUDY

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ABSTRACT

The study area, Nuh is one of the backward regions of Mewat district of Haryana state, India. Agriculture and agro-based dairy & poultry business are back bone of the region's economy. The people of this area are natural agriculturists deprived of proper irrigation. Irrigation canal system of the area depends on Gurgaon canal. This region has the history of salinity and scarcity of potable drinking water. In the present study existing scenario of the study area was analysed in terms of cropping pattern, water use, and net benefits from agriculture. MATLAB based optimization model being proposed to evolve customized optimal saline resistant cropping policy with laying emphasis on maximizing the net benefits, human labour employment generation, and proper utilization of land & water resources. While evolving the cropping policy, saline resistant crops and soil health constraints are also considered. It was concluded that suggested cropping policy proposed to irrigate 37.97 % more area than existing condition. Further it is able to generate 8.62 % more net benefits, 40.15 % higher labour employment (in man days) than that of existing condition.

KEYWORDS: Human Labour, Maximization, Optimization, Salinity, MATLAB