

## Future of Precision Agriculture in India

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### Abstract

The yield and quality of crops depends on various biotic, abiotic and management related parameters. In conventional agriculture the farmers relied on their experiences. Due to human perception often there is uncontrolled use of resources and inputs resulting in not only natural resources wastage and environmental pollution but also financial loss of farmers. Precision agriculture uses technology such GPS, sensors, Internet of Things, robotics, drones, machine learning and decision support systems etc. to optimize the use of natural resources and farm inputs for a specified yield and quality of crops. The future of precision farming is moving towards extensive use of machine learning techniques and image analysis. However, the major constraints are loss of job, data security, lack of motivation, training and so on.

**Keywords:** Aotic, abiotic, management, environmental pollution, crops, farming

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### 1. Introduction

Agricultural production is the result of the combined effects of natural resources, biotic factors, agro inputs and management. A harmony in interaction of above can only make it a sustainable venture. In the developing countries a considerable portion of population remains engaged in agriculture as in India about 54 percent of people are directly and indirectly involved in agriculture and allied activities. However, agriculture contributes only 15 percent to country's gross domestic product (GDP). Indian agriculture passed a long journey since independence. The country witnessed nightmare of absolute shortage of food grains supplies in the 1960s, however, achieved sufficiency after adoption of Green Revolution. At present, India is one of leaders of crop producer with a production of 285 million tonnes of food grains in 2018-19 and estimated to reach at 292 million tonnes in 2019-20 (Economic