

The Application of Drone Technology for Sustainable Agriculture in India

Ashish Dhage, Yash Dhande, Pallavi Mahale, Om Ghomal

Department of Mechanical Engineering

Guru Gobind Singh Polytechnic, Nashik

Abstract: *Agriculture in India faces challenges from multiple fronts, decline in productivity, climate change and sustainability. Using drones in farming contributes to sustainable agriculture in terms of social, economic and environmental dimensions. This article discusses the advantages of adopting drone technology in India. The drones are useful in multiple ways, such as, soil analysis for field planning, plant establishment, precision application of agrochemicals, crop monitoring, irrigation management, crop health assessment, livestock monitoring, and disaster management, geo- fencing, crop biomass and damage estimation, locust control, and transporting goods in agriculture. The paper also describes the initiatives of Government of India towards promoting drone technology. Challenges in use of the drone technology have been discussed. The study found that the application of drone technology saves time, labour, water, and cuts spending on chemicals. It also reduces use of chemicals and eliminates the chemical exposure to human. The paper concludes that the government should effectively adopt and leverage the potential of drone technology for transforming the agriculture sector and life of millions of farmers in India*

Keywords: Climate Change; Drone; Sustainable Agriculture; and Technology