

# TECHNOLOGICAL ADVANCEMENTS IN AGRICULTURE

*Aditi Avasthi*

*Shyama Prasad Mukherji College*

“The advance of technology is based on making it fit in so that you don't even notice it, so it's part of everyday life.”

-Bill Gates



The agriculture sector serves as the backbone of many other major industries. The food processing industries, textiles, furniture, and to some extent the drug and cosmetic industries are all dependent upon agriculture for raw materials. Agriculture sector also provides a market for other industries such as fertilizer, and other equipment manufacturing units and thus becomes one of a vital contributor to the economy. Hence, technological advancements become crucial to not only speed up the process but also to increase efficiency. In recent years, many developments have taken place. Some of the latest ones include automated irrigation systems, remote monitoring of crops

using sensors, merging of datasets, genetically modifying crops with the help of biotechnology, and practicing precision agriculture.



Automated irrigation systems make use of water judiciously and ensure better distribution of water. Remote monitoring of crops employs drones and satellites to keep a check on their crops using an app or simply browser and provide fertilizer and water accordingly. Merging genomic datasets with other factors like weather, water, temperature, soil composition, and so on can lead to predictions on how agriculture production can be improved. Usage of genetically modified crops certainly produces crops with higher yields and nutritional value. Precision agriculture involves taking inputs of crop yield against the variability of elements such as moisture content of the soil, water, fertilizer, etc. Farmers can save a lot of money on the input and yet have better yields with the help of this analysis. With the overall mechanization of agriculture and automation of industrial processes, the productivity of agriculture has increased multi-folds.

It is to be noted that these technological advancements have to be used in moderation, sustainably, and analyse so that it doesn't lead to other issues.

## FACTS

In recent years, the adoption of digital technologies in precision agriculture has been adjusting the ways that farmers treat crops and manage fields. One doesn't have to be an expert to see how the technology has changed the concept of farming making it more profitable, efficient, safer, and simple. Among other technologies, farmers have picked five they deem to be the best:

- GIS software and GPS agriculture
- Satellite imagery
- Drone and other aerial imagery
- Farming software and online data
- Merging datasets

