

Agriculture in the age of technology.

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Letter

In the previous two decades, technological uses in the Indian agricultural sector have steadily increased. Farm mechanisation has taken the lead in this shift, which is allowing farmers to earn more money. Other aspects of agriculture were also seeing technological advancements. Micro irrigation, biotechnology, soil health cards, mobile money, and the use of mobile phones in diverse agricultural activities have already established themselves in India. Furthermore, remote sensing drones, the global positioning system (GPS), weather mapping, and digitised mapping, among other technologies, are now widely used in the industry.

Farmers in India face a slew of issues, including unreliable monsoons, high agricultural input costs, and limited access to credit, low output prices, insufficient market access, and a slew of other issues. In such difficult circumstances, technology can be a huge help. Not only has the sector accepted farm mechanisation, but it has also broadened its horizons to include advanced technology capable of bringing about change.

Agricultural mechanisation

Increased farmer awareness of the benefits of mechanisation, as well as different government programmes aimed at promoting it, has resulted in a continuous increase in farm mechanisation in India.

Individual farmers are unable to transport the machinery to their fields. As a result, the corporate sector can play a critical role in this area by establishing tailored hiring centres. India has achieved 40% farm mechanisation so far, despite the fact that agriculture employs roughly 55 per cent of the population. With a greater focus on mechanising small and marginal farmers and easier access to agricultural loans with increased affordability, the remaining 60% of landholding opens up good opportunities that can be accessed.

We must comprehend the Indian agricultural environment. We are unable to offer tractors to tiny and marginalised farmers due to the low landholding. As a result, farmers with fragmented landholdings can benefit from affordable power tillers.

Aerial Drone: Taking to the Sky

One example is NETRA, a Defence Research and Development Organisation (DRDO) unmanned aerial vehicle (UAV) that was deployed to track damage and stranded individuals during the deadly Uttarakhand floods. It is also causing significant changes in the agricultural sector.

Experts emphasise the use of space technology and data collected from drones for remote sensing. It is necessary to design a framework for evaluating the data collected by agricultural drones.

The Indian Space Research Organisation (ISRO National)'s Remote Sensing Centre (NRSC) sells remote sensing data to the agriculture industry.

Technologies of the Future

It has become necessary to adapt agriculture in a scientific manner in order to overcome the obstacles and feed the growing population. Given that 80 per cent of Indian farmers own less than two hectares of land, technological solutions must be accessible to all.

The availability of advanced technology, the potential for scaling up and replicating their adoption at the farm level, the commercialisation of agriculture, and the incubation and financing of such technologies will create a platform to emphasise the importance of moving away from mechanisation and toward technology adoption, as well as its contribution to overall growth and productivity enhancement.

Collaborations between the public and private sectors

Both the public and private sectors have made major investments in R&D and the development of new technology to solve the issue of sustainable agriculture. Given the structural shift in agriculture and the growing need for technology, it is vital to ensure that solutions are available to farmers and agribusiness companies, are practical on the ground, and are scalable. Strengthening the public-private connection in this sector, while utilising the respective competitive advantage, has a lot of merit. Obviously, issues associated with commercialization must be addressed.

Agriculture must be the backbone of the Indian economy, as it employs more than half of the country's people. Changes in the farming industry, as well as the general economy, would be unavoidable as a result of technological advancements.

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