

## Agri Business

### Analytics driving agriculture: Dreams, hopes and reality

Sandeep Sabharwal | Updated On: Apr 16, 2022



Big Data and Artificial Intelligence form the backbone of smart farming

Visualise a farmer working tirelessly in the fields to provide for his family. He spends days to plan, nurture, protect, harvest, and ultimately, sell the crop for a fair price in the market. The earnings bring food and smile to his home. But, this happiness is fragile. Factors such as erratic weather, untimely pest infestations, and excessive use of fertilisers can decrease the harvest quality and quantity thereby decreasing his income and thus stealing the moments of joy.

The market price of a crop for an individual farmer and the contribution of India's largest employment shareholder toward the national economy is directly dependent on productivity. In terms of agricultural value-added per worker as of 2018, India ranks lowest among the top 20 global economies - a country that has 58 per cent of people employed, directly or indirectly, in agriculture. With a rising population-demand curve, Indian agriculture needs to be scaled towards its true potential and this is where the integration of technology, particularly analytics and then implementation, steps in.

## Benefits

Big Data and Artificial Intelligence form the backbone of smart farming. Accommodating data via cloud computing, the former is instrumental in deriving necessary insights from key elements like soil, weather, crops and machines. This allows farmers to decide on crop rotation patterns based on the on-ground conditions and make well-informed decisions.

On the other hand, AI enables machinery to minimise effort and maximise productivity. Functioning on automated cycles, the technology allows efficient resource utilization without compromising the agricultural productivity. At this point, one can simply ask: *If there are so many benefits of technology in agriculture, then where are the results?*

## Ground support

There are two hurdles in the agri-analytics integration: affordability and awareness. Analytics require machinery (drones, for instance) that poses the challenge of affordability for Small Holder Farmers (SHFs). Taking cognizance, the government has initiated a series of changes such as drone operation SOPs, financial grants for FPOs, etc. These are positive and timely signs that denote the intersection of farmer concerns and policymakers.

However, it is imperative to realise that financial help must be complemented with awareness. Every conversation about agri technology focuses on the “possible” advanced benefits. But, true success cannot be achieved without convincing SHFs that this is a better practice than their archaic methods. Regular awareness programmes, expert interactions, live demonstration of different technologies are the building blocks of better farming decisions.

## Risks mitigation

The influx of technology creates the possibility of malicious digital activities such as malware attacks, Trojan viruses, etc. Hacking and manipulation of I/O agricultural devices can lead to catastrophic outcomes such as wrongful use of fertilisers, groundwater exploitation, and incorrect terrain data that can destroy the entire plantation or minimise the land fertility.

In order to avoid such situations, the government and private players need to pay special attention to the security measures at on-ground technology use. A cluster of villages could have a data reporting center with a dedicated team of security professionals to ensure smooth operations around the clock. Furthermore, this can be scaled up with random site/village visits to check on the equipment as well as operational difficulties faced by the farmers. This way, customer grievances can be resolved easily with a subsequent check on machinery.

Analytics has the ability to drive Indian agriculture towards marvelous productivity improvements, provided that the decision-making bodies, corporates, and farmers work in unison towards technology adoption. That said, considering the funding, policy changes, and accessibility in AgriTech during the last five years, we are traversing the path towards helping the farmers ensure the happiness of their families and improve food security for the citizens of India.

*(The author is Group CEO, Sohan Lal Commodity Management Pvt. Ltd.)*

Published on April 16, 2022