

## A new era for India's agritech sector

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The agriculture sector contributes 6.4% of the world's total economic production. The importance of agriculture in the Indian economy cannot be over-emphasised. An estimated 58% of India's population is dependent on agriculture as the primary source of livelihood and agriculture contributes 17% to the national GDP. This is further supported by the sector's continued resilience. When the manufacturing sector stuttered during the pandemic, the agricultural sector proved to be the most resilient – registering a growth of 3.6% in 2020-21, and then improving further to 3.9% during 2021-22.

Given India is one of the most populous countries in the world and the UN recently projected it will become the most populous country sometime in 2023, it's easy to understand the importance for agriculture to meet the growing demand for food. This is why it is critical to utilise technology in all aspects of agriculture sector to increase efficiency and output. We've already seen incredible innovation happening across the space, but we expect pivotal advancements will come in the next decade as climate change and the impact of Covid-19 further and inadvertently highlight the importance of food safety, quality and supply.

The benefits of technology infusion in the agri-supply chain can be illustrated with the example of apples. India is the world's 5th largest producer of apples – grown mainly in three Northern states – Jammu & Kashmir, Uttarakhand, and Himachal Pradesh. Due to the difficult terrain of the plantation sites, and poor road and transportation facilities of 6 years ago, by the time these apples reached the markets of the Southern states through archaic supply chain systems, they were no longer juicy.

Fast forward to 2022 and now consumers in South India can buy juicy apples even during the summer, as they are transported from Kashmir in refrigerated trucks in only 72 hours. This exemplifies the positive impact of modern packaging, efficient logistics and modern transportation.

This is only the start of a transformational period in India's agritech sector, as this critical sector still has a number of pain points, including archaic farming, storage, and transportation practices. With record funding – the Indian agritech industry has received \$1 billion in funding from investors across the world according to a Bain & Co report. A few exciting areas to follow are outlined below.

### **Digital disruption builds efficient models**

Demand for various agricultural produce is year-long, however the supply is seasonal, which creates a prolonged gap between sellers and consumers. The proliferation of smartphones and data has created an opportunity to bridge the gap on both sides of the marketplace.

The accelerated growth of 4G adoption, proliferation of cheap smartphones and the availability of mobile-enabled information services have empowered the agricultural community to adopt technological advancements. According to a report by AgEcon, 41% of Indian farmers use smartphones to access agricultural information. Several farmers use social media platforms to acquire knowledge from experts and peers as well. As technology penetration rapidly increases amongst the agricultural community, information services continue to snowball and widen the scope of rural productivity in the future.

## **Leveraging AI to expand our understanding of crop needs**

With the rising demand for organic produce by consumers, some farmers – historically reliant on chemical fertilisers and insecticides – are finding it challenging to grow such crops.

Agri-tech companies are also using AI to identify why crops may be underperforming. For instance, a farmer can upload photos of a pest or other abnormality on a particular crop and the platform's technology can recognise the issue and provide details of the types of pesticides that can be used to eliminate the insect attack, or fertilizers to encourage healthier growth, saving time and money and leading to a higher overall crop yield.

The scope of technology in agriculture is recognised by the Government of India, through the National Horticulture Mission (NHM). The NHM provides technical advice to farmers for optimising yields, multiple schemes to support farmers for maximum supply, financial assistance, technology promotion, a 24 x 7 helpline, and so on. Through this mission, the government of India is also aiding the farmers of today.

## **Quality and traceability of produce grows in importance**

Increasingly health-conscious consumers are more inclined to determine the quality of the product before purchase. One example of the smart use of technology to assuage concerns of produce freshness has been put to use by Captain Fresh, a B2B marketplace in the seafood industry. One can simply take a picture under the gills of the fish they are examining and the technology can determine its perishability as their AI platform objectively grades fish based on size and visual characteristics to determine the residual shelf life. While some measures have been taken for traceability of vegetables and fruits, they are still in the early stage, thereby creating a unique opportunity for companies to further revolutionise this sector.

## **Alleviating supply chain issues**

There are inefficiencies on both sides of the supply chain as the amount of produce that is available for sale is limited whereas the demand for the same is ever-growing. The identification of buyers is tedious and due to the rise in demand all across the world, the ability to supply good quality products has been restricted.

According to the Food and Agricultural Organisation (FAO), an estimated 40% of the food produced in India gets wasted every year due to an inefficient supply chain.

Through online detection technologies, smart monitoring of fresh foods, and inventory management software that can keep complete track of food delivery and storage as well as anticipate overstocking or inventory shortage, the new-age agri-centric innovations by companies can minimise this wastage to a large extent.

In all, agtech is a massive industry with major tailwinds and there is significant innovation that has happened and will come in the next decade. Given the impact agtech has on India's economy, any advancements have the potential to dramatically improve the experience for farmers, consumers and companies.

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