

Start-ups can transform India's farm sector

Agri ventures that serve the small farmer need more seed funding, incubation and mentoring to make an impact

ANJANI BANSAL/MARCELLA MCCLATCHY

Modernising Indian agriculture will require nothing less than a step change in key elements of the sector: supply chains and markets; production support; and credit and crop insurance.

Indian entrepreneurs are developing new technologies and business models to meet this challenge. In 2018, the country had nearly 500 agricultural start-ups. In the past five years alone, these start-ups raised nearly \$130 million from investors in about 70 deals. But they need much more investment and support to fulfil their potential.

Supply chains for perishable commodities such as fruits and vegetables and non-perishables such as wheat and rice remain largely fragmented in India, with smallholder farmers earning low margins. Unpredictable demand, price volatility and post-harvest losses compound the risks.

A number of start-ups — such as WayCool, Ninjacart, JumboTail, GoBasco, Ergos and Crofarm — are using data and technology to improve supply chain efficiency. WayCool, which distributes fresh produce to

sellers ranging from small shops to large retail outlets, reduces waste and inefficiency by using analytics, process management software and connected devices. Jumbotail uses technology and data science to build more efficient supply chains that connect retail grocery stores with food processors and farmer producer organizations. Ergos, a rural warehousing company in Bihar, operates a chain of efficient and hygienic rural warehousing facilities that are located within easy access of small farms.

Most small farmers lack access to production support, including high-quality inputs (such as seeds, fertilisers and chemicals), advisory services, equipment rentals, crop health and yield data, and weather forecasts.

A number of start-ups have created alternative channels to deliver inputs to farmers at low cost. AgroStar uses data, analytics, and artificial intelligence to power a standalone mobile app, a web service, and a customer call centre where farmers can obtain high-quality products for all of their farming needs. Most small farmers cannot afford to buy farm equipment, so start-ups such as EM3,



App edge for Indian farmers ISTOCK

Oxen, Gold Farm and Tringo are offering on-demand rentals and enabling farmers who own equipment to rent it to others.

Gold Farm, a virtual marketplace for tractors and farm implements, connects farmers who need equipment with farmers who own equipment, using a cloud-based platform that combines IOT-driven, farm-specific data with remote sensing imagery. Through these tools, Gold Farm can generate valuable data in the form of heat maps that depict crop yields, pest infestations and areas experiencing water stress.

Most small farmers lack access to collateral-free financing and crop insurance. Using reliable crop ana-

lytics, satellite imagery and machine learning, start-ups like Satsure, Amnex and CropIn are offering services that facilitate crop insurance for smallholder farmers that come with reduced premiums and more timely and accurate payouts. CropIn uses data sources such as satellite imagery and technologies such as machine learning to offer predictive decision-making tools to agri-businesses, financial institutions and crop insurance providers.

Systemic, scalable solutions

These agricultural start-ups, instead of focussing on specific commodities, address systemic bottlenecks in the agricultural sector. As a result, they have the potential to scale up nationwide. The growing maturity of these start-ups can be seen in their increasingly layered business models. Some online input suppliers have started offering financial services, and output procurement platforms are adding advisory services for farmers. This is a positive trend.

These agricultural innovations are still at an early stage, but start-ups in India can look to and learn from the success of their counter-

parts in more mature markets, including Europe, North America and China.

In addition to investment capital, Indian agricultural start-ups need technical advice and access to global markets and talent. Several venture capital and private equity funds are stepping in and applying their experience from other sectors and countries. Investments across the agricultural supply chain in India have averaged about \$250 million in each of the last five years — a significant amount.

But most of that capital has gone into front-end supply chain solutions, including branding, distribution and food delivery rather than farmer-focussed innovations.

Start-ups that serve small farmers need more seed funding, early-stage capital, incubation and mentoring to unlock their immense growth potential. The talent, drive and vision of Indian start-ups can help define the future of Indian agriculture. With the support of a strong ecosystem of investors, the sector will be in good hands.

Bansal is Deputy Director, and McClatchy is Program Officer, at Bill and Melinda Gates Foundation