

Fertile Ground for Tech

A number of new ventures are building technology-based solutions to boost agriculture, reports **Peerzada Abrar**

In turning his back on a coveted consulting job to launch a startup that brings technology to India's farm sector, Shashank Kumar was choosing the road less travelled. But the 27-year-old graduate of Indian Institute of Technology, Delhi, was convinced that bigger rewards lie in harnessing the potential in the country's agriculture sector.

Two years ago, he set up Farms and Farmers, a company which develops processes and technologies to help farmers evaluate soil quality and climatic conditions as well as choose crops and marketing for the produce.

"I travelled the world in search of what I needed and returned home to find it," said Kumar, who worked at Beacon Advisory Services in Gurgaon. He teamed up with Manish Kumar, an IIT-Kharagpur alumnus, to launch the new venture in his home state of Bihar. Pooling in savings of ₹4 lakh to begin operations in Vaishali district, they now work with thousands of small farmers across nine districts.

GROWING TRIBE

A number of professionals like Kumar are turning to careers in agriculture, enticed by growing consumer demand and a shortage of quality produce.

India is one of the world's major food producers but accounts for less than 1.5% of international

Startups Bet on Agriculture with Leaner Models

FrontalRain Technologies

WHAT IT DOES: Offers cloud-based supply chain software for agri-business and food processing companies

USP: Just need a computer, laptop, mobile or tablet with internet connection to use the sophisticated software

FUNDING: ₹5 crore from Omnivore Partners

REVENUES: Fy 2013-2014

₹3cr

Sohan Lal Commodity Management

WHAT IT DOES: Agri-commodity warehouse management and procurement solutions to farmers, processors, traders and government

USP: Provides technology for real time management of food supply chains

FUNDING: Raised total funding of ₹150 crore from Nexus Venture Partners, Mayfield Fund, ICICI's Emerging India Fund and Everstone Capital

REVENUES: Fy 2014-2015

₹1000 cr

Farms n Farmers

WHAT IT DOES: Works with small and marginal farmers for their empowerment through innovative ways of farming

USP: Provides information about quality of soil, climatic conditions, which crop to cultivate, training, monitoring farming processes and marketing of products

FUNDING: ₹15.5 lakh soft loan from National Bank for Agriculture and Rural Development

REVENUES: Fy 2013-2014

₹7-8 cr

Barrix Agro Sciences

WHAT IT DOES: Makes next generation pheromone traps that attract and kills pests

USP: Provide farmers with highly effective crop protection while reducing their dependence on chemical insecticides

FUNDING: Undisclosed amount from Omnivore Partners

REVENUES: Fy 2013-2014

₹10 cr

food trade. This has thrown up huge opportunities for entrepreneurs in areas such as food security and distribution, according to N Viswanadham, a professor at the Indian Institute of Science in Bangalore who collaborates closely with the food industry. "There is a 30% loss from farm to fork," he said.

While first-time entrepreneurs like Kumar, with no background in agriculture, are drawn by the opportunity, those already in the sector are also innovating.

FUNDS FLOW

Mark Kahn, cofounder of Omnivore Partners—an early stage fund that backs agriculture companies—believes the sector is attracting three kinds of entrepreneurs. "Some have worked at big agricultural firms while some are young technologists; there are also existing players who are bringing in new innovations."

Omnivore has invested in a number of such ventures, including FrontalRain Technologies, founded by three software engineers, and Khedut Agro Engineering, a 15-year-old company that recently launched automated agricultural equipment.

More investors are now flocking to the sector. Last year, the amount of venture capital and private equity capital invested in agricultural ventures tripled to ₹2,000 crore, according to research firm Venture Intelligence.

INNOVATION

In Bangalore, Barrix Agro Sciences, cofounded by 40-year-old Mayil Vaganan, is replacing pesticides with pheromone-based pest control traps to protect fruit and vegetable crops. A farmer only needs to spend ₹360 for a trap with one gram of pheromone developed by Barrix, as against ₹10,000 on five litres

of pesticide, to protect one acre of land, he claims. The product is being used by 15,000 farmers across three states.

"Sex is more powerful than food. Our pheromones are smelling agents that attract pests and then kills them," said Vaganan who worked as a scientist at Cadila Pharmaceuticals and Ranbaxy before teaming up with Lokesh Makam to set up Barrix in 2011. The founders, who pooled in savings of ₹23 lakh to start the venture, found the going tough in the initial days. "I

There are numerous challenges in this sector, from regulatory issues to execution problems

CHANGING TRACK

While Vaganan changed his career path, for 41-year-old Sandeep Sabharwal, the challenge was to reorient his family business. Seven years ago, he switched the business model at Sohan Lal Commodity Management from food processing to commodity warehouse management.

His company provides procurement solutions to farmers, processors, traders, agriexchanges and government across 12 states in India. "We are the Microsoft of the food industry. You give us any hardware, we will run our software on it," said Sabharwal.

Sandeep Singhal, co-founder of Nexus Venture Partners, which has invested in Sohan Lal, said that inefficiencies across the supply chain—from low yields to inadequate storage facilities—provides an opportunity

for high-quality entrepreneurs to build large companies.

FACILITATORS

Software professionals Jayaram Srinivasan, Sreeram P and Ravi Mandayam quit German software maker SAP to launch a startup that helps plug gaps in the rural supply chain. Cloud computing solutions for Indian farmers is what their Bangalore-based FrontalRain Technologies offers.

"It is ironic that engineers in India make software for gaming, ecommerce, social networking but very few address agriculture problems," said 44-year-old Srinivasan. "On the one hand, people find it difficult to eat three meals a day, while on the other lot of food is getting wasted." The two-year-old startup expects a turnover of ₹3 crore in 2014.

CONDITIONS APPLY

However, there are numerous challenges for entrepreneurs in this sector, ranging from regulatory issues to problems with execution. For example, Barrix has to pay sales tax of 14% in Karnataka and 5% in Andhra Pradesh. "It is not easy to build intellectual property, also margins are low," said Singhal of Nexus Venture.

The sheer scale of demand will make up for these shortcomings, said experts. By 2050, there will be an estimated nine billion people on the planet and farmers must increase yields at a rate never seen before.

Viswanadham of IISc believes such demand can be met only by people with entrepreneurial and risk-taking ability, backed by technology and good governance. "It requires brave, corporate and intelligent work."

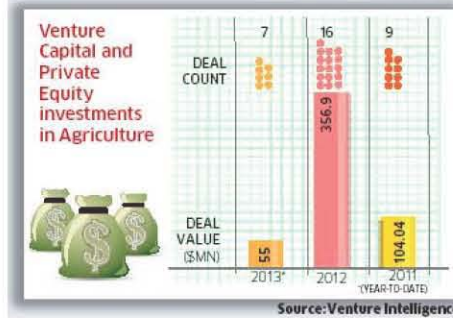
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Shashank Kumar (left) and Manish Kumar of Farms and Farmers



Frontal Rain founders (from left) Jayaram Srinivasan, Sreeram P and Ravi Mandayam



Rating ★★★★★