CASE STUDY: KAMAL KISAN

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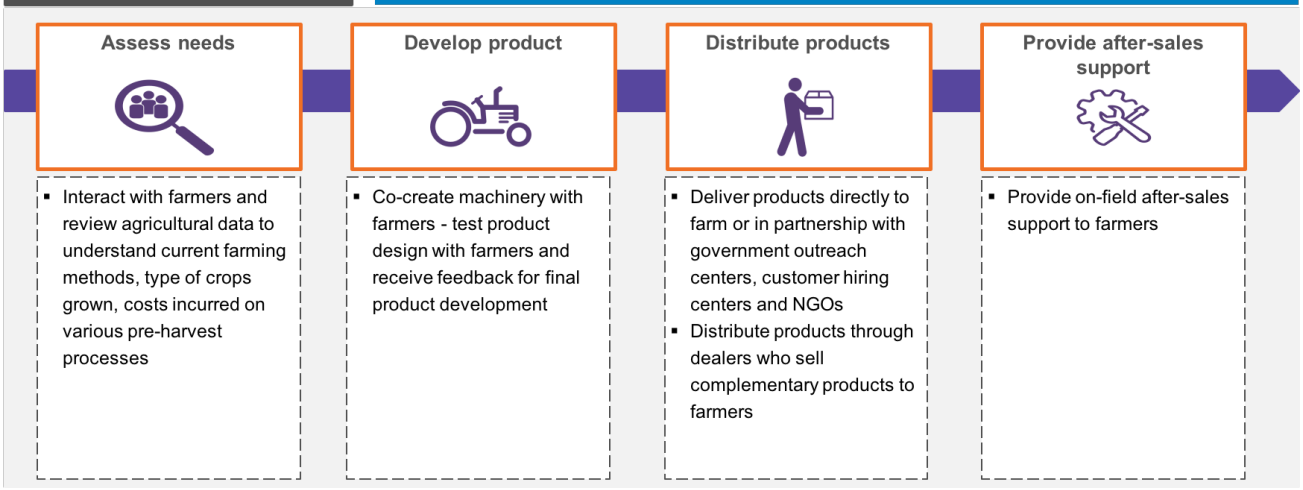
Founding year: 2013
HQ: Bangalore, India
Countries of operation : India
Orientation: For-profit
Employees: 10
Turnover: INR 10 Lakhs

Farmers in developing countries predominantly practice smallholder farming, cultivating crops in plots smaller than two hectares in size. Modern machinery is typically built for use in large farms and don't match traditional farming processes followed by farmers in these countries. In India, the lack of access to suitable mechanization equipment, coupled with high levels of migration of labor force from rural areas results in farmers spending up to 40% of total cultivation costs on labor.

Kamal Kisan is a social enterprise that designs and builds agricultural machinery for India's small and marginal farmers. The enterprise's approach includes understanding relevant needs and preferences of smallholder farmers and co-creating cost-effective and energy efficient machinery. The products offered by the enterprise include a vegetable planter, mulch layer and sugarcane planter. It has sold its products to 385 farmers in Karnataka. Kamal Kisan's solutions have helped farmers decrease labor costs by 50% and saved over INR 14 Lakhs for its customer farmers.



Operating Model

Kamal Kisan designs and manufactures cost-effective and energy-efficient farm mechanization solutions for small and marginal farmers in India, with the aim to decrease labor costs by 50 percent and increase productivity by 50 percent. The enterprise identifies the products for development based on factors including crop land under cultivation, crops and agricultural processes that are heavily labor dependent, processes that contribute significantly to the total cost of cultivation, and existing availability of solutions in the market.

Kamal Kisan's target customer base includes horticultural farmers and sugarcane growers who earn USD 10000-12000 per year per acre.

The enterprise co-creates agricultural machinery with farmers by incorporating their views on the applicability of the farm equipment to their current farming processes and small plot sizes. By incorporating customer feedback on product design, the enterprise makes it easier for farmers to adopt its products. It identifies farmers who are willing to participate in the research and testing phase by leveraging on the farmer network of Krishi Vigyan Kendra - a government based agricultural extension center, agricultural universities, and agricultural businesses such as sugarcane mills. In addition, it partners with Krishi Vigyan Kendra for state and district level data related to current agricultural practices adopted by smallholder farmers, and potential areas of intervention to improve agricultural technology and productivity of smallholders.

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This series on Inclusive Innovations explores business models that improve the lives of those living in extreme poverty. Editors are Elaine Tinsley and Natalia Agapitova. Researched and developed by Intellecap.

Kamal Kisan adopts various strategies to create awareness, generate demand and sell its products. It conducts on-field visits to rural farms, interacts with farmers and farmer co-operatives on the issues that they face due to labor-intensive cultivation processes and provides knowledge on the benefits of adopting the enterprise's simple technology as a substitute to human labor. The enterprise works with local community leader farmers to further engage in farmer-to-farmer demonstrations of its products. It partners with agro-equipment dealers, who sell complementary products to farmers, to expand its marketing reach. In addition, Kamal Kisan partners with agricultural universities and local government organizations to reach remotely located farmers. The enterprise either delivers its products directly to farmers or sells its products via partner agro-dealers.

The *Vegetable Planter (USD30)* allows 1 laborer to plant 1 acre of vegetables within 4 hours as compared to 4 laborers using a conventional planter. The *Mulch Layer* (USD525) can lay 1 acre of mulch film in 3 hours using 2 laborers instead of 6 laborers. The *Sugarcane Planter (USD 1425)* combines the processes of creating ridges, dropping cane material and covering with soil into a single pass within 4 hours per acre.

Kamal Kisan provides on-farm after-sales services. The uncomplicated design of its farm equipment allows farmers to seek maintenance and repair support from local blacksmiths. This is a key factor in building farmer confidence.

Financial Sustainability

Farmers are able to relate to the value of substituting expensive labor-intensive processes with Kamal Kisan's affordable mechanized solutions since the enterprise involves farmers in the product design and development stage, As a result, smallholder farmer are more open to purchasing the enterprise's products. However, this interactive process requires significant upfront research and testing costs to be incurred by the enterprise prior to the sale of solutions.

Kamal Kisan receives financial support (debt) from IIT Madras' Rural Technology Business Incubator. The enterprise has also received funding and is incubated by the Villgro Innovation Foundation. In addition, it has received grant funding by the Ministry of MSME for research and development activities.

Impact

Kamal Kisan's affordable and sustainable mechanized solutions have enabled 50 percent reduction in labor costs which results in 10-50 percent reduction in total cultivation costs. The use of machinery has also led to a significant reduction in the time spent on farming operations. The energy-efficient mulch layer, in combination with drip irrigation, has helped farmers reduce water usage by 50 percent to 80 percent allowing farmers to grow additional water-intensive crops such as watermelon and cotton. Kamal Kisan also engages village level entrepreneurs to lease it's equipment on a rental basis to farmers to generate additional income.

Challenges and Lessons

Owing to its high-touch operating model, Kamal Kisan faces challenges in providing personalized post-sales support to farmers. Reaching remotely located farmers has also proven to be time-consuming and resource-intensive for the enterprise. Currently, it deploys its own team to provide after-sales services. However, going forward, the enterprise plans to partner with dealers who could provide last-mile support services.

In addition to farmer feedback on product design, the enterprise also heavily relies on data to support the initial assessment of product development. However, a severe lack of reliable data on agriculture in India makes it difficult for Kamal Kisan to efficiently conduct its preliminary gap assessment and product research.