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Innovative ventures in agriculture: Emerging agribusiness opportunities in India

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Abstract

Agribusinesses are estimated to contribute about 30 percent to India's gross domestic product, with the agriculture sector employing the largest proportion of the workforce. Agribusinesses continue to be a potential lever of growth for the Indian economy. The scope and opportunities in the agri-business have substantially expanded due to globalization of trade and agriculture and the policy reforms at national level, leading to an unprecedented level of interest in this sector. The progressive growth of Indian economy is most likely to be controlled by the agribusiness sector. In spite of India earning global acclaim for its manufacturing and services sector, agriculture, which has been critical to the domestic economy, continues to be affected by many challenges that are hindering the sector from realizing its true potential. This article throws light on the glimpse of agribusiness in India and highlights the untapped potential of key agribusiness segments.

Keywords: Agribusiness, start-up initiative, Agri ventures, strategies, institutional ecosystem

Introduction

Agriculture has always been called the backbone of Indian economy, supporting the livelihoods of the majority of the population. Although India has a significant presence internationally in terms of production of key cereals, pulses, fruits, vegetables and animal products, at the same time, productivity is fairly low (APEDA). As per estimates from the Indian Council for Agricultural Research (ICAR), the demand for food grains would increase from 192 million tonnes in 2000 to 345 million tonnes in 2030 and hence in the next 20 years, production of food grains needs to be increased at the rate of 5.5 million tonnes annually. In such a situation, where we have promising macro fundamentals in the sector but the enablers and catalysing sparks are missing, we need a segment of disruptive technologies/enablers that can leverage technology, leading to increase in productivity, efficiency and output.

Agribusiness denotes the collective business activities that are performed from farm to fork. It covers the supply of agricultural inputs, the production and transformation of agricultural products (Henson *et al.*, 2009) [4]. Agribusiness includes all the activities within the agricultural food and natural resource industry involved in the production of food and fiber. Individual agribusinesses may sell items to farmers for production; provide services to other agricultural businesses; or be engaged in the marketing, transportation, processing, and distribution of agricultural products. Agribusiness is one of the main generators of employment and income worldwide. Agribusiness is characterized by raw materials that are mostly perishable, variable in quality and not regularly available. The sector is subject to stringent regulatory controls on consumer safety, product quality and environmental protection. Traditional production and distribution methods are being replaced by more closely coordinated and better planned linkages between agribusiness firms, farmers, retailers and others in the supply chains.

Categorisation of agribusiness sector in India: Based on solutions provided to support the agri value chain, agribusiness sectors can be categorised into four broad segments:

- 1. Big data based agri sector:** Development of farm-specific, data-driven diagnostics to determine soil and crop health has come up as a big opportunity area. Start-ups are leveraging drones or tractor-based solutions to get data (both on weather and agricultural) on field to determine risk. Growing smartphone penetration will enable precise decision making in farming activity, helping farmers to drive increased productivity and revenue while reducing unit costs.
- 2. Agri sector developed around the market linkage model:** Innovations must be included to help farmers with timely and accurate estimation of sowing and harvesting in sync with consumer demand patterns. Such linkages operate at the two critical ends of the supply

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chain: input and output models. These models aim to link producers to remunerative sourcing agencies for procurement and to profitable buyers for output sales.

3. **Agri sector developed around Farming as a Service (FAAS):** Specific farm practices are being identified for provision of technological breakthrough services. Activities such as equipment renting and crop care practices are areas likely to see market traction. FAAS seeks to provide affordable technology solutions for efficient farming. It converts fixed costs into variable costs for farmers, thus making the techniques more affordable for a majority of small farmers. Its services are available on a subscription or pay-per-use basis in three broad categories, which are crucial across the agriculture value chain.
4. **IoT enabled technology based agri sectors:** Smart farming, including high-precision crop control, data collection, and automated farming techniques, will remove inefficiencies and bolster productivity. Information on crop yields, rainfall patterns, pest infestation and soil nutrition can be used to improve farming techniques over time. Low capex for predominantly software based solutions is the key feature for such solutions.

Institutional ecosystem for agri start-ups: The ecosystem for successful start-ups typically starts with proper mentorship with a mix of technological and managerial support. The broader agri start-up ecosystem includes a number of think tanks, research labs, incubators and accelerators (FAO, 2008)^[3]. Incubation centres are typically established in regions that are especially weak in terms of basic factor conditions conducive for industry. In some cases, such incubation facilities and their infrastructure and equipment may be required to reduce start-up costs and successfully transcend the teething stage of operation in projects. While incubators may themselves conduct ED related training programmes, the scope for synergizing incubator activities with existing EDP conducting institutions also exists. This is likely to result in greater numbers of sustainable start-ups. This is a model being considered in some locations in India.

Government Initiatives in the sector: Government has taken various initiatives to promote the agribusiness sector. The Agriculture Export Policy, 2018 was approved by Government of India in December 2018. The new policy aims to increase India's agricultural exports to US\$ 60 billion by 2022 and US\$ 100 billion in the next few years with a stable trade policy regime (APEDA). In September 2018, the Government of India announced Rs 15,053 crore (US\$ 2.25 billion) procurement policy named 'Pradhan Mantri Annadata Aay Sanraks Han Abhiyan' (PM-AASHA), under which states can decide the compensation scheme and can also partner with private agencies to ensure fair prices for farmers in the country (Union Budget, 18-19). In September 2018, the Cabinet Committee on Economic Affairs (CCEA) approved a Rs 5,500 crore (US\$ 820.41 million) assistance package for the sugar industry in India (Union Budget, 18-19). The Government of India is going to provide Rs 2,000 crore (US\$ 306.29 million) for computerization of Primary Agricultural Credit Society (PACS) to ensure cooperatives are benefitted through digital technology (DAC)^[1]. With an aim to boost innovation and entrepreneurship in agriculture, the

Government of India is introducing a new AGRI-UDAAN programme to mentor start-ups and to enable them to connect with potential investors. The Government of India has launched the Pradhan Mantri Krishi Sinchai Yojana (PMKSY) with an investment of Rs 50,000 crore (US\$ 7.7 billion) aimed at development of irrigation sources for providing a permanent solution from drought (Union Budget 18-19). The Government of India plans to triple the capacity of food processing sector in India from the current 10 per cent of agriculture produce and has also committed Rs 6,000 crore (US\$ 936.38 billion) as investments for mega food parks in the country, as a part of the Scheme for Agro-Marine Processing and Development of Agro-Processing Clusters (SAMPADA). The Government of India has allowed 100 per cent FDI in marketing of food products and in food product e-commerce under the automatic route (Wilkinson and Rocha, 2008)^[7].

Potential Agribusiness Opportunities in India: Opportunities to do business with Indian Agriculture are enormous. Agribusiness sector has huge potential. Few of them are discussed below:

- **Vermicompost-Organic Fertilizer Production:** Vermicompost organic fertilizer production has now become a major component of agro-business models across the country with a very low initial investment. An entrepreneur can start this business with the proper know-how of the production process.
- **Dried Flower Business:** Dried Flower Business in specialty flower is a very profitable venture now worldwide. Flower production is one of the fastest growing crop trends in agriculture today with a strong demand for all types of flowers, especially unique and hard-to-grow varieties. The interest in cut dry flowers has increased consistently over the last ten years.
- **Fertilizer Distribution Business:** Fertilizer distribution business in India is highly controlled by Government regulation. It is one of the profitable agriculture business ideas one can start with moderate capital investment.
- **Organic Farm Green House:** An organic farm greenhouse business has a high potential to grow and succeed because steadily the demand for organically grown farm products has grown considerably. Organic farm greenhouse business has been normally done on small, family-run farms. But since the demand for organically grown food products is now increasing, people are investing in land for organic farming.
- **Poultry Farming:** Poultry farming in India has transformed into a techno-commercial industry from the status of backyard farming since three decades. Poultry farming is the fastest growing sector in agriculture and farming business. The annual growth rate is 8-10% in egg and 12-15% in the broiler industry.
- **Mushroom Farming:** A mushroom farming business can be a mean of big profit in just a few weeks with considerably low start-up capital investment to start a business. A person who has a little bit of idea in the science and technology of mushroom growing and has an own building for having the farm - mushroom farming business will be the perfect option for him to start.
- **Snail Farming:** Snail farming business opportunity demands discipline and specific knowledge in modern technology. Snail farming is the process of raising land

snails specifically for human consumption. It has a high rate of protein, iron, low fat and almost all the amino acids that are needed for human body.

- **Sunflower Farming:** In starting sunflower farming business, the primary requirement is the land. In India, sunflower is often called a commercial cash crop. Growing sunflower for oilseed with maintaining right process is a viable business opportunity. An entrepreneur passionate about agriculture and having owned land can start sunflower farming business.
- **Bee Keeping:** Beekeeping business opportunity demands day-to-day monitoring with close supervision to the bees. With the increasing awareness about the health, demand for honey is growing globally. Beekeeping for selling honey and other products like wax is a profitable venture to start with less start-up investment.
- **Fish Farming:** Commercial fish farming business is a lucrative investment that can spin money at any time of the year continuously. With the implementation of modern techniques and having owned space, an entrepreneur can start this business with moderate capital investment.
- **Fruits and Vegetables Export:** An entrepreneur can start an export business of fresh fruits and vegetables by collecting them from local farmers. One can start this business from a home location only having a phone and computer with internet connection.
- **Florist:** One of the very profitable agriculture business ideas. Having a retail space and connection with the flower growers, one can start this business. An entrepreneur also can generate a substantial online sale by offering customers door-step delivery.
- **Frozen Chicken Production:** Frozen chicken is a hot product now. The demand for this product is increasing globally. An entrepreneur living in a metro or suburban city can start this business with proper planning.
- **Botanical Pesticide Production:** The botanical pesticide is one of the most profitable agriculture business ideas. It is an essential and mandatory product for organic farming and the demand for this product is increasing highly.
- **Basket and Broom Production:** Basket and broom are very common products in rural agriculture scenario. An entrepreneur can start this business by sourcing these products from rural makers and after giving ornamentation, it can be sold as utility or decor item through retail and online both. To start profitable basket-weaving business one requires thoughtful planning and a high level of creative mind having a flair for design. Using a wide range of raw material an entrepreneur can initiate customized basket-weaving business from a home location with moderate capital investment. Broom production technical process is simple and the project can be initiated with proper planning and moderate capital investment. Broom has been used from centuries to sweep up dirt and dust, in and around homes and workplaces.
- **Flour Milling:** Flour milling business has many diversified fields. An entrepreneur can start this business with a proper business plan. Establishing your own brand product is highly profitable in this business. Fruit juice-Jam-Jelly Production:- Fruit juice-jam-jelly production business has the huge market opportunity. Most important thing is the production process is not that complex and can be initiated small-scale basis.
- **Cashew-nut Processing:** Processed cashew nut is a consumer durable product and has huge market potential. An entrepreneur can initiate this venture semi-automatic small-scale basis.
- **Shrimp Farming:** Shrimp farming is an aquaculture business that exists in the freshwater environment, producing shrimp or prawn for human consumption. The demand for this product is increasing globally.
- **Fish Hatchery:** A fish hatchery is a place for artificial breeding, hatching and rearing through the early life stage of finfish and shellfish in particular. Hatcheries produce larval and juvenile fish primarily to support the aquaculture industry where they are transferred to on-growing systems.
- **Soya Beans Processing:** Commercially soya beans processing to produce milk, soy flour, soya sauce, soya bean oil, natto etc. is a very profitable agriculture business ideas to start with moderate capital investment. With proper marketing strategy, an entrepreneur can start this business in small scale also.
- **Spice Processing:** Rising global demand gives a boost to spice processing industry recently. Good quality processed spice has very good demand. Processing and packaging methods are not very complex. The margin is also very satisfying in spice processing business.
- **Vegetable Farming:** Vegetable farming is one the most profitable agriculture business ideas. Having sufficient land an entrepreneur can start good quality vegetable farming with quality seed and fertilizers.
- **Tea Growing:** Tea growing business has huge potential and demand for the product is increasing globally. Tea plants typically fare best in acidic soil and regions with heavy rainfall around 40 inches per year, although they can be grown anywhere from sea level to altitudes as high as 1.3 miles above sea level.
- **Grocery E-Shopping Portal:** Grocery E-shopping portal is a most trending business in recent phenomena. This tech-based business opportunity demands proper planning and strong online marketing strategy to start.
- **Medicinal Herbs Farming:** Growing medicinal herbs commercially are one of profitable agriculture business ideas. Having sufficient land and knowledge about the herbs marketing, an entrepreneur can initiate medicinal herbs farming with moderate capital investment.
- **Dairy Farming:** Commercial dairy farming is one of the most profitable agriculture business ideas. Apart from milk, it produced a quantity of manure. There is a tremendous scope/potential for increasing the milk production through profitable dairy farming.
- **Goatery Farming:** Goats are among the main meat-producing animals in India. This meat is one of the choicest meats and has huge domestic demand. Due to its good economic prospects, goat rearing under an intensive and semi-intensive system for commercial production has been gaining momentum for the past couple of years.
- **Fodder Farming:** Fodder is any agricultural foodstuff used specifically to feed domesticated livestock, such as chickens, horses, pigs, cattle and goats. The term refers to food given to animals, rather than the food they forage for themselves. Types of plants typically grown for fodder include alfalfa, barley, oats, clover, grass and wheat.

Conclusion and way forward

Agriculture development is an overriding priority in India's development strategy. The prospects for increasing future agriculture growth will rely on a dual strategy of building partnerships with right actors and increased focus on innovations in agriculture sector. Bringing innovation to agriculture not only underpins the creation of new opportunities for Agri Start-ups but also opens new markets. Therefore, a substantial part of our agricultural growth must come through application of innovative technologies at different segments of agriculture value-chain. This will be vital for our country to achieve rightful position in global trade too. Agri start-ups are potential human capital in the Indian agricultural economy and certainly the right partners for innovation-led agriculture growth. It's an opportune time to bring them together and inspire them to devise appropriate solutions for agribusiness issues. While summing up the key trends and future outlook of the sector, the need for disruptive technologies to steer the agriculture sector has been emphasised. India has already built a strong name for itself in the global start-up community. It's time to make agri start-ups successful and propel India forward as a leader in the agri technology sector too.

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