

Enhancing Income of Farmers Through Agribusiness Entrepreneurship

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Abstract

Developing countries like India rely heavily on agriculture to meet their demand for food, fodder, and fuel. In India, the agriculture sector supports 60% of the population for its livelihood and hence, plays an important role in its economic growth. It still remains the major contributor to India's GDP besides employing 52% of its workforce. However, Indian agriculture is still characterized by traditional practices, the large number of small and marginal farmers with scattered fields, limited innovations, and lack of robust market modules. There is utmost need for the adaptation of new strategies and entrepreneurship in the agribusiness sector for the overall growth and economic development of the farming society in the country. A move from agriculture to agribusiness is critical for revitalizing Indian agriculture and making it more appealing and profitable. In the national economy, agripreneurship helps to generate jobs, income, reduce poverty, enhance nutrition, health, and overall food security as well as entrepreneurial opportunities in rural areas. Many of the remote areas are deprived of good infrastructure and technology which adversely affect the livelihood of farmers. A successful agripreneur should be able to manage scarce resources, establish market linkages, and have risk bearing ability. The present article focused on the need and role of entrepreneurship in the agribusiness sector, business models, and the role of policymaking in the successful translation of scientific knowledge for agribusiness development to enhance farmers' income with appropriate environment.

Keywords : Agribusiness, business model, entrepreneurship, farm income, value chain

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The ability of farmers to shift, leave outdated paradigms, and embrace a new agricultural phase is referred to as agri-entrepreneurship. Since ancient times, India has predominantly been an agriculture based country with farming and other farm related activities forming the backbone of its economy. As a matter of fact, agriculture supplied more than half of the national GDP, and more than 70% of the overall population was dependent on agriculture at the time of independence (Patel & Bhanushali, 2007). Agriculture and allied sectors are regarded as the backbone of the Indian economy since they provide key raw materials for industries and generate demand for a wide range of industrial products including fertilizers, insecticides, agricultural tools, and a variety of consumer goods. The agripreneurship programme is essential for developing entrepreneurs and managerial talent to serve the global agriculture industry (Bairwa, Lakra, Kushwaha, Meena, & Kumar, 2014). Economic environment, education, and culture have a significant impact on agribusiness (Singh, 2013). Entrepreneurship is the process of determining how to

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establish and expand a profitable agricultural enterprise. In its simplest definition, agribusiness may be defined as a discipline involving the production, processing, marketing, and distribution of agriculture products to generate goods and services. Agribusiness has a broad spectrum encompassing agriculture and its allied sectors including floriculture, fishery, apiculture, livestock and poultry, horticulture, farm equipment manufacturers, pesticide and fertiliser producers, seed suppliers etc. (Acharya, 2007). Since the last two decades, there has been considerable growth in the agribusiness sector due to the increase in production and trading activities between countries. Also, growing awareness among farmers through education and different social media platforms has led to the development of different agribusiness ventures in the country.

Further, improvements in supply chain of agricultural produce to the market and the introduction of different farm laws have been the driving forces to uplift the agriculture sector in the country. Nevertheless, there exists substantial scope for further improvement in agriculture and allied sectors for raising the socio-economic status of the rural mass of the country. This need is further substantiated due to the COVID-19 pandemic when the major economies across the globe are attempting to revive by boosting their agriculture sector. Barren/wasteland and the present climate change scenario further pose challenges to improving agriculture productivity.

Literature Review

The role of the farmer is changing, so he needs to develop new skills to be competitive, which means that he needs to be an entrepreneur (McElwee, 2006). Entrepreneurship not only includes the creation of new ventures or start-ups but includes innovation and growth. Agri-entrepreneurship can address the current issues of lower farm mechanisation and low productivity of the livestock sector so that it can be helpful for farmers in general and agri-entrepreneurs in particular (Gartner, 1990). Productive farmers have following core personality traits:

- ↳ Self-confidence in their ability to manage events;
- ↳ Problem-solving skills;
- ↳ Social initiative

It is also worth noting that the globalisation of free market economies has led to the birth of a new entrepreneurial spirit known as "Agripreneurship," as well as an increasing individual urge for personal responsibility in running their own firms (Alex, 2011). Earlier, agriculture was treated as a pastime and tilling of land but growing wasteland, depletion of natural resources, and migration of rural youth to urban areas with bad beliefs of youngsters towards farming and emerging technologies in agriculture have necessitated restructuring of agricultural activities (Bairwa et al., 2014). Agripreneurship is greatly influenced mainly by the economic situation, education, and culture. An entrepreneur is someone who predicts the availability of business opportunities, analyses the unmet demand, and pursues opportunities accordingly to do business. He must improve these skills, as well as manage productivity and search out new markets (Singh, 2013). Entrepreneurial competences were classified by Man et al. (2002) into six categories: opportunity identification skills, relationship development, organising, strategic competences, conceptual thinking, and ability to solve problems. Ketelaar-de, Enting, Vermeulen, and Verhaar (2002) distinguished farmers into five groups:

- ↳ Economic entrepreneurs: those who create significant economic change;
- ↳ Socially responsible entrepreneurs: farmers who recognise that financial success of the farm needs to balance with a social and environmental role;
- ↳ Traditional growers: farmers who are able to succeed by focussing on an activity which is 'guaranteed' to be successful;
- ↳ New growers: farmers who diversify into new but similar areas of activity;

↳ Doubting entrepreneurs: farmers who are reluctant to embrace change.

According to Bairwa et al. (2014), open minded agricultural entrepreneurs would see more challenges than they could logically solve in a dynamic setting with rapid technological innovation. As a result, the farm owner must recognise difficulties and work with them until a resolution can be made.

Objective

Keeping in view the literature mentioned earlier, the present study aimed at knowing the factors affecting the performance of farmers in agriculture and allied sectors and to know the various government policies drafted and/or executed for betterment of new entrepreneurs and start-ups aiming to double farmers' income.

Research Methodology

The present study was conducted based on the secondary data and was qualitative in nature. The facts, figures, and other relevant information for the study was obtained from research reports, financial reports, budget statements, public libraries, web links, and journals. The period of study was July 2021 to December 2021.

Entrepreneurship in Agriculture

It has now become imperative to develop entrepreneurs in the field of agriculture. The entrepreneur is the one who through his idea, experiences and risk-taking abilities strives towards setting up a business for profitable returns. Agricultural entrepreneurs involve progressive farmers or individuals who utilize agriculture related activities to establish a firm for business development. Being creative and innovative are the essential traits for a farmer-entrepreneur for sustainability and productivity in a competitive and technology driven environment. Entrepreneurship includes all economic activities related to the farm, including:

- ↳ Farm equipment manufacturing
- ↳ Pesticide and fertilizer supply
- ↳ Agricultural research and development
- ↳ Seed supply
- ↳ Crop and food storage
- ↳ Farm production and processing
- ↳ Agricultural financing
- ↳ Food delivery and marketing

There is immense scope for raising the Indian agriculture economy through promotion of entrepreneurship as it offers:

- ↳ Employment opportunities to the rural youth
- ↳ Reduce migration from rural to urban areas
- ↳ Increase individual and national income
- ↳ Reduce the burden on agriculture
- ↳ Giving more trading opportunities to trading farmers

Farmers with little holdings may have an entrepreneurial spirit, but their chances of success are restricted owing to a lack of trust in their abilities to take risks, as well as other financial, labour, and market related constraints.

Classification of Agriculture in Enterprises

It is important to note that besides having good management skills, a successful entrepreneur has to work in harmony with the suppliers, traders, transporters, and processors. Therefore, a thorough understanding of different components of the value chain is needed for ensuring a profitable entrepreneur venture. The understanding of different enterprises involved in agribusiness sector is necessary to define the niche targets of entrepreneurship. According to Hajgolkar and Sabanna (2017), these enterprises may be classified as:

- ↳ **Primary producers at the farm level** : These include farmers and their family members directly involved in farm activities.
- ↳ **Service providers** : Service providers involve enterprises that provide different services to primary producers. These services include machinery and equipment and those involved in procurement and distribution of agriculture produce, for example, tractors, seed drills, sprayers, harvesters, threshers, dryers, transportation, and storage facilities,
- ↳ **Input producers** : They provide advanced inputs including biofertilizers, biopesticides, vermicompost, irrigation accessories etc. These include services supporting sericulture, fisheries, and poultry.
- ↳ **Processing and marketing** : It involves technology based enterprises which ensure efficient management at the post harvesting stage. These enterprises include cooperatives and service societies catering to post harvest management, processing, and marketing of agriculture produce.

Agricultural Landscape and Farming Practices in India

Agriculture and allied sector activities employ 54.6% of the total workforce of the country. According to the Land Use Statistics 2016-17, India's overall geographical area is 328.7 million hectares, with 139.4 million hectares of reported net sown area and 200.2 million hectares of gross cropped area at 143.6% cropping intensity. The net area sown constitutes 45% of the total geographical area, whereas the net irrigated area is 68.6 million hectares.

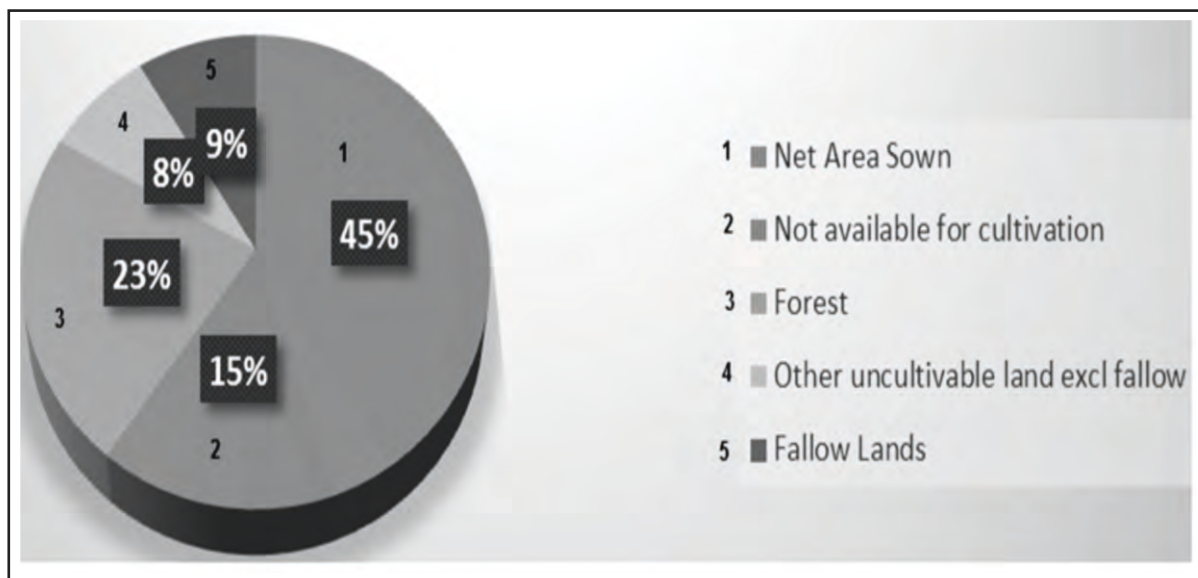


Figure 1. Agriculture Land Use in India as Per the Land Use Statistics (2016 – 2017)

Source : Department of Agriculture and Family Welfare. (n.d.)

The total land is under cultivation with three types of farming systems in India:

- ↳ Traditional System: Traditional agriculture is a primitive type of food production and farming that relies heavily on indigenous knowledge, land usage, traditional equipment, natural resources, organic fertiliser, and farmers' cultural values. This system includes double cropping, mixed cropping, crop rotation, agroforestry, and use of local varieties.
- ↳ Semi-commercial system includes cropping system and mixed system.
- ↳ Commercial system consists of perennial crops and livestock. In this system crops are growing for sale in the market. The main purpose of this farming is to do business. It requires large areas and a high level of technology and it is done with a high cost of tools.

A progressive and competitive entrepreneur needs to target the specific enterprise for providing services having general acceptability and economic viability. This may include novel, cost-efficient, and scale-up of the processes involved in conventional agriculture practices. Introduction of digital or informational technology (IT) based solutions for disseminating technical know-how, production, processing, and marketing of agriculture produce provides another venue for profitable entrepreneurship. In addition, entrepreneurs may adopt or learn from innovation or scientific knowledgebase created by academic or research institutes/organisations.

Challenges in Agriculture Sector

According to the report by the World Bank (2012), over three-quarters of Indian families rely on rural income and the majority of India's poor (about 770 million people, that is, 70% of the total population) are found in rural areas. India's food security depends on producing cereal crops, as well as on the production of fruits, vegetables, and milk to meet the demands of a growing population. As the rural sectors are not aware of new practices of agriculture and allied sectors, the new programmes or schemes related to farming practices don't have far reach to the rural farmer due to poverty and low financial status. The technology facilities are not available in these areas as mobile is not afforded by each and every farmer. Therefore, they get deprived of government schemes and strategies.

The following agricultural challenges need to be tackled for ensuring overall development and improved welfare of rural poor of India:

- ↳ Raising agricultural productivity per unit of land: Since all the cultivable land is being farmed, increasing agricultural productivity per unit of land will be needed for agricultural expansion. Limiting water supply necessitates that agricultural water must compete with growing industrial and urban demands. Increased yields, diversification to higher-value crops, and the development of value chains (GramworkX, 2020) to lower marketing costs could be utilised to boost productivity.
- ↳ Rural poverty reduction using a socially inclusive strategy that includes both farm and non-farm employment: the impoverished, landless, women, reserved castes, and tribes should all get benefited from rural development.
- ↳ Need to ensure that agricultural expansion meets the demands of national food security.

Challenges in Agripreneurship

- ↳ Lack of skilled and managerial manpower: The rural regions are also affected by rural-urban migration which leads to the loss of educated and skilled labour. The lack of professional and management workforce in rural regions is mostly due to a lack of appropriate educational institutions.
- ↳ Lack of infrastructural facilities: Any economic venture including agri-business requires the availability of a minimum level of previously built-up infrastructure facilities. However, rural regions, in particular, suffer from lack of inadequate infrastructure in terms of road, rail, telecommunications, energy, market information networks, and other sectors. This, in turn, has a negative impact on the efficient and sustainable use of available agri-resources.

- ↳ Lack of awareness about career in agri-preneurship: The majority of individuals are still unaware of options, benefits, and the importance of entrepreneurship as a profitable career option.
- ↳ Lack of equipment and technologies: One of the biggest obstacles faced by agripreneurs, particularly in rural regions, has been the unavailability of essential equipment and technology.
- ↳ High infrastructure and distribution costs: Efficient transport system is required to supply inputs to a firm and also for distribution of products to customers, which may be dispersed across a larger area and hence, demands higher costs.

Status of Agriculture and Agricultural Labour in India

Agriculture sector includes agriculture (agriculture proper and livestock), forestry and logging, fishing and other related activities that contribute to the gross value added (GVA) of the country. As per the Economic Survey 2021-22, (Ministry of Finance, n.d.), the agriculture sector has contributed to about 18.8% (2021- 22) GVA of the country (Figure 2), registering a growth of 3.6% in 2020-21 and 3.9% in 2021-22 (Figure 3).

Even during the challenging time of the COVID-19 pandemic, the agriculture sector showed a significant growth of 3.6% in 2020-2021. While COVID-induced lockdowns affected the performance of non-agricultural sectors, the agriculture sector grew at a good pace of 3.6% at constant prices in 2020-21. These figures suggest the potential of further re-enforcing the economy of the country through the development and popularising of entrepreneurship in the agriculture sector.

The number of cultivators and agricultural labourers may be used to determine the livelihood dependency on agriculture. Data showed that while the number of cultivators showed a decline during 2001 and 2011, the absolute number of agricultural labourers has grown from 107 million to 144 million in the decade between 2001 and 2011 (Ministry of Finance, n.d.; Table 1). Importantly, the ratio of agricultural workers to total workers in the economy has been decreasing indicating that some number of the population is shifting out from agriculture into other sectors. These trends necessitate a framework of policies and introduction of entrepreneurship through training, professional skilling and social adjustment skill sets for projecting agribusiness sector as a promising profitable venture.

In India, the majority of farmers have small landholdings (less than one hectare of land) and do not cultivate enough for commercialisation. Nearly 70% of farmers earn less than 15,000 a year per caput. According to Niti Aayog, (Kumar & Chahal, 2018), the following proposed action plans has been proposed to double farmers' earnings:

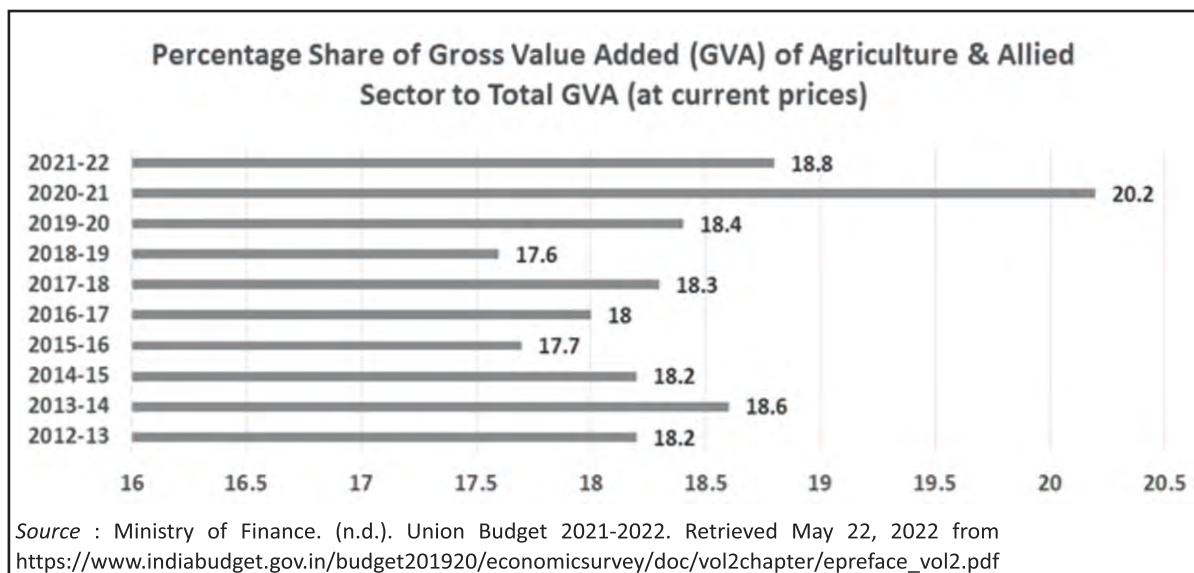


Figure 2. Percentage Share of Gross Value Added of Agriculture and Allied Sectors

Table 1. Compound Annual Growth Rate of Cultivators and Agriculture Labours (%)

Year	Cultivators	Agriculture labours
1951-61	3.6	1.44
1961-71	-2.39	4.19
1971-81	1.69	1.57
1981-91	1.81	3
1991-01	1.41	3.65
2001-11	-0.69	3.06

Source : Department of Agriculture and Family Welfare. (n.d.). Report of the "Committee on Doubling on Farmer's Income." Retrieved March 10, 2021 from <https://agricoop.nic.in/en/doubling-farmers>

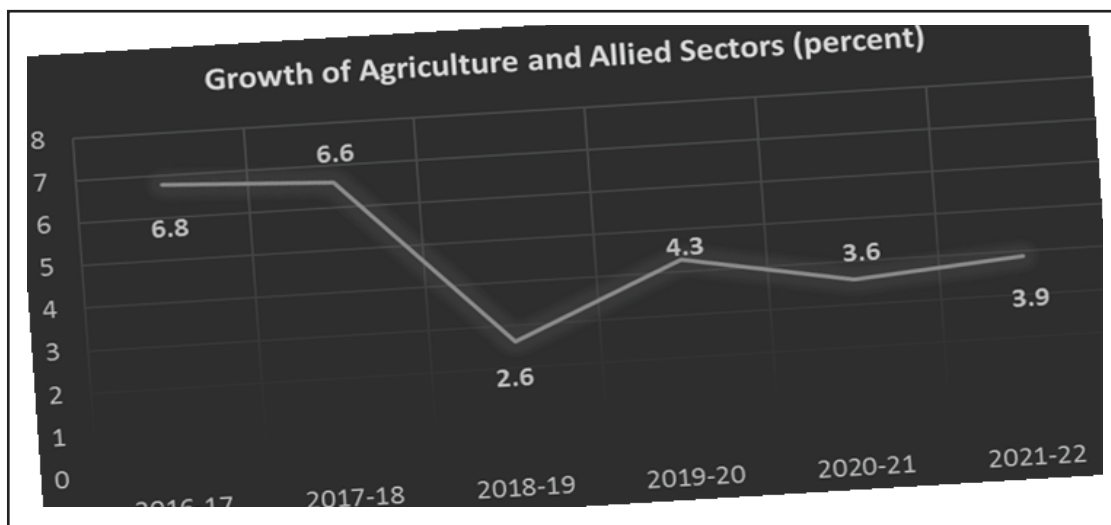


Figure 3. Growth of Agriculture and Allied Sectors During the Specified Time Intervals

Source : Ministry of Finance. (n.d.). Union Budget 2021-2022. Retrieved May 22, 2022 from https://www.indiabudget.gov.in/budget201920/economicsurvey/doc/vol2chapter/epreface_vol2.pdf

(1) Remunerative price for farmers by reforming the existing marketing structure

Through E-National agriculture marketing (E-NAM), 85% of agricultural output could be auctioned which should be mandatory for agricultural produce sale in 'mandis'. The E-NAM mechanism in Agricultural Produce & Livestock Market Committee (APMC) has the intrinsic capacity to wither away the prevalence of monopolies in the supply of marketing services/facilities. There is a strong need for linking the minimum support price (MSP) with the cost of production.

(2) Raising productivity

The task of increasing crop production requires substantial investments in irrigation, seeds, fertilisers, and new technologies, as well as a need to shift towards high-value commodities like horticulture, poultry, and dairy etc. In addition, mechanisation with advanced farm equipment, the introduction of elite varieties and genetically modified crops promise higher yield and hence, more profit.

(3) Reforming agriculture policy and relief measures

Different agriculture policies and government schemes should aim at increasing farmers' income within a specific time frame. The stakeholders should embrace a comprehensive, multi-pronged, and targeted strategy encompassing income possibilities considering all the variables. A combinatorial approach involving agricultural research and development, infrastructure investment, and human resource development should be considered for increasing farmers' income.

Role of Entrepreneurship in Agribusiness in Improving the Income of Farmers

The introduction of entrepreneurship provides an opportunity to raise the economic status of farmers' communities, especially in rural areas of the country. Development of entrepreneurship skills among farmers would aid in raising farmers' income. The first and foremost important element in any entrepreneurship development is innovation or an idea to create or design a novel product or process. Subsequently, the target innovation or idea should be translated into production considering all the available resources and innovative methods of manufacturing. A progressive entrepreneur should identify the new market and geographical area for the general acceptability of his products within a speculated economic framework. Lastly, the economics and financial viability of the product/process should be worked out for any necessary changes to maximise profit. These requirements constitute a rural development model (Figure 4) showing four essential factors for the sustainability and profitability of any agribusiness venture (Tripathi & Agarwal, 2015). Figure 4 shows the rural development model through entrepreneurship in the agriculture sector.

Further, entrepreneurs need to consider the solutions meeting consumer satisfaction along with growing possibilities to address local and national demand. Other factors including value proposition, identification of the market segment, estimation of the overall costs and profit margins, and development of competitive advantage should also be considered to frame a successful business model.

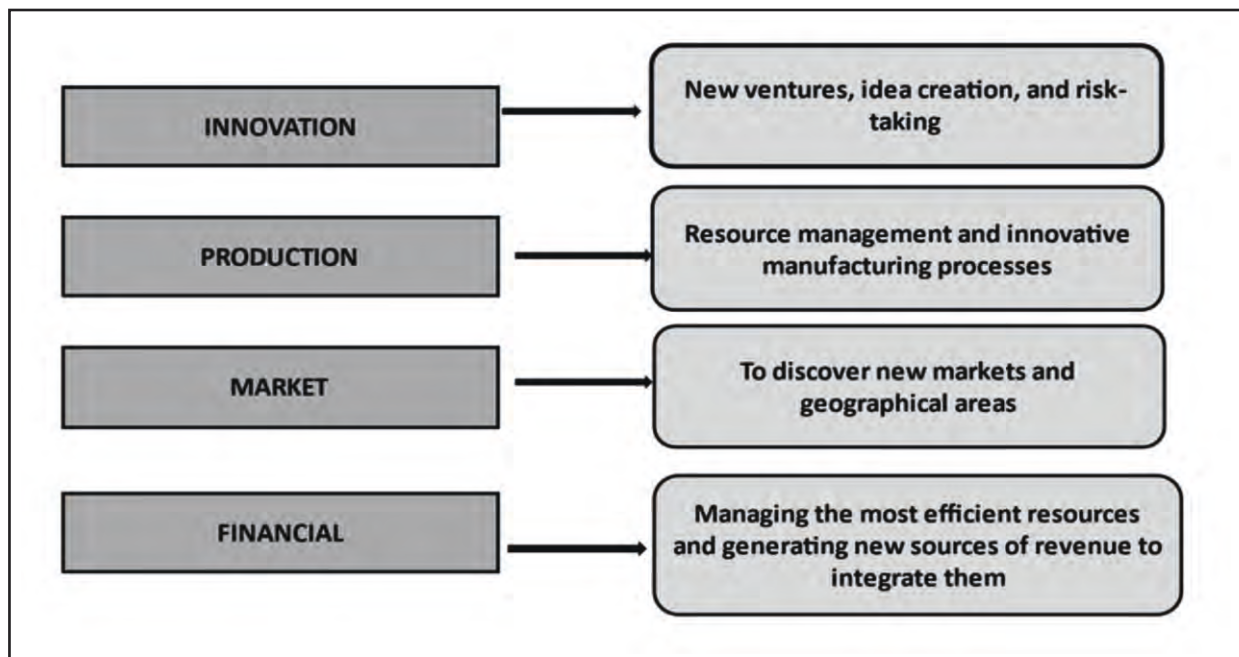


Figure 4. The Rural Development Model Through Entrepreneurship in the Agriculture Sector.
[Adapted from Tripathy and Agarwal (2015)]

Business Model for Smallholder Farmers

Under the current agro-economic scenario, farmers with smallholding remain poorly downtrodden due to severe shortage of resources (land, water, energy, and credit), lack of skill development, and absence of workable, and realistic markets for products and inputs. Refocusing attention on agricultural systems as a "business" and re-strategizing services utilising a demand-driven market-based mechanism is much needed. Smallholder farming systems could be revitalised with an integrated strategy that utilises market possibilities, providing full end-to-end solution, and development of sustainable business-supply-chains to integrate farmers and the consumer (Ferris, Robbins, Best, Seville, Buxton, Shriver, & Wei, 2014). This necessitates a more inclusive business model that encompasses integrated inclusive business chains supported by existing channels and markets. Small farmers are linked to agricultural value chains through a variety of economic strategies (Table 2). However, like any other business, agribusinesses' performance is determined not only by the quality of products or services, but also by business strategy followed by agri-entrepreneur.

Table 2. Business Model for Smallholder Farmers [Adapted from Birtal (2015)]

Models	Drivers	Rationale
Producer-driven	<ul style="list-style-type: none"> • Small scale producers • Large scale farmers 	<ul style="list-style-type: none"> • Access to new markets • Obtain higher market price • Stabilize and secure market position
Buyer-driven	<ul style="list-style-type: none"> • Processors • Exporters • Traders • Retailers 	<ul style="list-style-type: none"> • Assure supply • Increase supply volume • Serve niche market • Consumer preferences
Facilitator-driven	<ul style="list-style-type: none"> • Non-government organization • National and local government 	<ul style="list-style-type: none"> • Make markets work for poor • Regional and local development
Integrated	<ul style="list-style-type: none"> • Lead firm • Supermarkets • Multinationals 	<ul style="list-style-type: none"> • New, higher value market • Low prices for good quality • Market monopolies

The farmer's organization can be linked to the market through the drivers' model driven by producer, buyer, and intermediaries. The producer-driven model includes the small farmers who work collectively to participate in the market. Big businesses organise farmers into suppliers in buyer-driven models, which also include the supply of managerial and technical assistance depending on customers' demands, often called contract farming (Kelly, Vergara, & Bammann, 2015). The provision of technical advice and support to discover and enhance smallholder market links is a frequent component of intermediary models managed by local NGOs.

Agribusiness Value Chain

The agribusiness industry which includes all the commercial operations from farms to the market is a major source of employment and revenue across the world. Importantly, agriculture-based industries also ensures food security of the country. The success of any agribusiness endeavour relies heavily on the agricultural inputs, production, and transformation of agricultural goods, and their delivery to ultimate customers. Policies and strategies aiming at encouraging investments in agri-enterprises should emphasize the development of agro-based value chains. Development agencies are increasingly promoting the "agriculture value chain" in which farmers collaborate with more powerful entities like companies and non-governmental organisations (NGOs) to generate new sources of

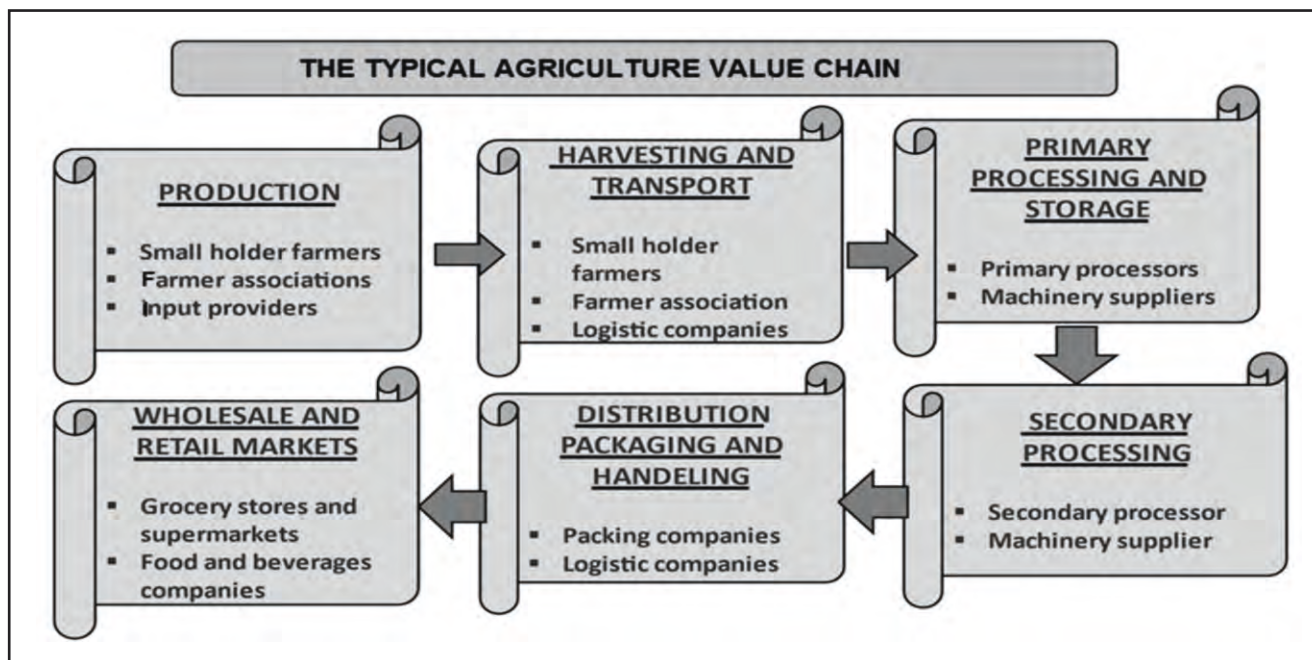


Figure 5. Flow Chart Showing Essential Components and the Associated Link of a Typical Value Chain Operative in the Agribusiness Process [Adapted from Kearney (2016)]

economic value. This would, in particular, would be quite helpful to uplift the socio-economic status of smallholder farmers. The process of agribusiness development through entrepreneurship should have a holistic view of the value chain which include farming, aggregating, processing, warehousing (including transportation), and retailing. Importantly, in the vast majority of cases, the development of a successful agribusiness module has been seriously affected by the absence of a robust value chain. The presence of numerous intermediaries, lack of information about other links in the chain, and under-investment in backward linkage and forward linkages could interrupt the workflow of a value chain (Cohen, 2020). This problem is quite common in countries like India where the majority of farmers have small landholdings and the sustainability of the value chain is difficult to maintain. Critical interventions in establishing a long-term value chain are of key importance to encourage farmers and entrepreneurs to adopt new processes and technologies over traditional practices. Important components and associated link in the typical value chain are depicted in Figure 5.

Constraints in the Development of an Efficient Value Chain in Indian Agriculture and Possible Solutions

The first and the foremost important target for creating a strong value chain lies in the very beginning of the chain, that is, the primary producer or the farmer. However, in the absence of motivation and encouragement, the majority of farmers are reluctant to adopt newer technologies when compared with their conventional practices. There is utmost need for persuading farmers, especially with small landholdings to adopt newer technologies and practices which ensure higher returns. Encouraging corporate farming through government policies or by facilitating long term leases would be helpful in tackling the problem associated with fragmented lands. The next major concern is a lack of extension services that demonstrate the viability of innovative business modules in farmer's field. Here, the role of different R & D institutes/organizations and management institutes becomes very important. They should provide novel and workable solutions for the problems faced by farmers at different levels of the supply chain. There is a need to identify different zones defining the cropping system, environment conditions, and market acceptability. The next

issue is post-harvest management which could circumvent the losses of perishable crops. Further, the processing of wastes into products should be worked out to minimize the post-harvest losses. It is equally important that farmers produce to reach consumers or markets with the minimum number of intermediaries. A strong and economic transportation/storage system is needed to ensure maximum returns from any agricultural practice.

Role of Government Policies in Promoting and Supporting Entrepreneurship in Agribusiness

Apart from the individual level, the responsibility of government directions and policies are of utmost importance in ensuring successful agri-entrepreneurship. In brief, the government policies should emphasize on:

- ↳ A minimum support system to the individual with a track record of feasible innovation or novel concepts.
- ↳ Educating and training farmers for a feasible and economic agri-entrepreneurship venture.
- ↳ Creation of robust value chain with minimum intermediaries for ensuring maximum profit to farmers.
- ↳ Assisting packaging, traceability, and branding of farm produce to build consumer confidence.
- ↳ Strengthening of extension services by different research and development institutes and organizations to build confidence among farmers or entrepreneurs.
- ↳ Development of social media platforms and user-friendly apps for encouraging entrepreneurship in agribusiness.

Different Government Policies Supporting Entrepreneurship in Agribusiness

In India, both the central and state governments have created programmes for establishing agribusiness. Agriculture Infrastructure Fund of Rs. 1 lakh crore has been established by the Hon'ble Finance Minister to help farmers build farm-gate infrastructure effective from 2020-21 until 2029-30. Under these programme, banks and financial institutions will lend a total of 1 lakh crore to all the agriculture service-based organizations which further help farmers to facilitate operations for livelihoods, such as marketing cooperative societies, primary agricultural credit societies (PACS), self-help groups (SHGs), farmers, farmer producer organisations (FPOs), joint liability groups (JLG), agri-entrepreneurs, multipurpose cooperative societies, and start-ups. Other government policies or interventions which have been instrumental in encouraging agri-business activities in the country include:

- ↳ **Initiative for Development of Entrepreneurs in Agriculture (IDEA)** : The initiative aims to encourage agri-business projects in the North-East region and aid in the establishment of agri-business as a viable business. It also creates jobs and makes more input and service sources available.
- ↳ **National Bank for Agriculture and Rural Development (NABARD)** : Works to ensure prosperity via participatory invention, technology, and institutional development, financial and non-financial operations in agricultural and rural development. It not only helps farmers, but also small businesses, cottage industries, and rural craftsmen using loan and non-credit approaches. It also provides counselling and consulting services to rural entrepreneurs, as well as organises training and development programmes. It develops Potential Linked Credit Plans for each district in the country based on local demand and investment feasibility. (National Bank for Agriculture and Rural Development, n.d.).
- ↳ **The Rural Small Business Development Centres (RSBDC)** : It is a NABARD-sponsored government centre for micro, small, and medium companies established by international organisations. RSBDC's main goal is to help financially and socially underprivileged individuals and communities.
- ↳ **The National Small Industries Corporation (NSIC)** : NSIC has been working in the country to promote, assist, and

nurture the growth of micro, small, and medium businesses. It is mostly concerned with the commercial aspects of small enterprises. It aids in the export of products of small business units and the development of export-worthiness.

As per the present scenario of agribusiness and allied sectors, government has taken some effective steps to improve the current condition and to provide more easily accessible approaches to flourish agri-economy and attain sustainable growth and development such as:

- ↳ MSPs would remain at 1.5 times the cost of manufacturing.
- ↳ The Pradhan Mantri Fasal Bima Yojana (PMFBY) scheme assists farmers across the country with a full-risk solution at the lowest feasible uniform premium. As a risk mitigation instrument, this plan covers the whole agricultural cycle from pre-planting to post-harvest, including losses arising from banned sowing and mid-season adversities.
- ↳ The Pradhan Mantri Kisan Samman Nidhi Yojana with a few exceptions intends to give financial support to farmers with cultivable land. The scheme distributes a total of ₹ 6000 each year in three instalments of ₹ 2000 each to the recipients' bank accounts.

In April 2016, the government formed an inter-ministerial committee to investigate issues related to "Doubling of Farmers Income" and suggest recommendations to achieve the goal. In September 2018, the Committee submitted its Report to the Government, which included a strategy for doubling farmers' income by 2022. The Committee's recommendations for the DFI strategy usually involve seven sources of income gains, namely (i) increase in crop productivity; (ii) increase in livestock productivity; (iii) efficiency in resource use or cost savings in production; (iv) a significant raise in cropping intensity; (v) diversification in favor of high-value crops; (vi) Farmers' real-world prices have risen; and (vii) transition from farming to non-farming occupations.

In addition to the initiatives from the central government, state governments also implement programs/schemes for the development of agri-sector. Collectively, these schemes/programs are designed to benefit farmers by raising productivity, remunerative returns, and income support.

Government Initiatives for Allied Sectors

- ↳ Under a scheme of State Dairy Cooperative & Farmers Producers organization (SDCFPO), the subsidy of 2% interest on working capital loans is provided to the financially stressed milk union.
- ↳ Following the declaration in the February 2020 budget to include livestock in the Kisan Credit Card under the Prime Minister's scheme of Atma Nirbhar Bharat, a fund of 1.5 crores has been allocated for dairy farmers from milk cooperatives and milk production firms to obtain Kisan Credit Cards (KCC).
- ↳ Animal Husbandry Infrastructure Development Fund (AHIDF) was established as part of the Atma Nirbhar Bharat Abhiyan stimulus package. Many businesses, individuals, micro, small, and medium enterprises, and FPOs (Farmer Producer Organisation) can invest in dairy, meat processing, and animal feed plant infrastructure under this scheme.
- ↳ The government has authorised the National Animal Disease Control Program (NADCP) for Control of Foot & Mouth Disease (FMD) and Brucellosis which would vaccinate all cattle, buffalo, sheep, goats, and pigs.
- ↳ The Blue Revolution (CSS-BR) is a government sponsored initiative that was created to promote Integrated, Responsible, and Holistic Development, and Management of the Fisheries Sector. A separate Fisheries and Aquaculture Infrastructure Development Fund (FIDF) has also been approved by the Indian government. Fishermen and fish farmers have received Kisan Credit Cards (KCCs), and banks are now processing another possible application also.

✍ The Pradhan Mantri Matsya Sampada Yojana is a government of India initiative as part of the Atma Nirbhar Bharat Package recognising the potential, breadth, and relevance of the fisheries industry.

✍ The agriculture research institutes (ICAR) and National Agriculture Research System are also playing an important role in providing new technologies and hybrid varieties including fruit crops to provide food and nutrition security.

Limitations in the Field of Agribusiness

(1) Poor infrastructure

Establishing and running profitable farm businesses is frequently hampered by a lack of basic infrastructure. Simple things like poor roads to markets, insufficient collection, and market facilities, and even unusual electricity supplies create tangible barriers to farm business development.

(2) Unsupportive laws and regulations

Agricultural entrepreneurship needs support from the government. Land title and possession, banking rules, trading regulations, company legislation, and tax law are some of the prevalent bottlenecks in the implementation of successful farm business. The capacity to buy, sell and rent land, the difficulty of business rules, and the scope of regulatory requirements, all influence the environment in which modern agricultural enterprises must function. Government must carefully analyse its rules and regulations to ensure that they make it easier for small farmers to start their businesses.

(3) Inadequate financial support

Lack of finance is a major impediment for most of the farmers attempting to boost output or expand into new high-value industries. Agri-entrepreneurs who are launching new agri-businesses sometimes find it difficult to secure funding for initiating agri-business

(4) A scarcity of training facilities

Farmers must have easy access to training and support in order to establish a profitable agribusiness. Academic institutions should play significant role to provide training, education, and technical knowledge to farmers and agri-entrepreneurs as per their request and at their location.

(5) Inadequate support services and qualified extension personnel

Farmers/ agri-entrepreneurs progressing through the five different stages (pre-establishment, establishment, survival, rapid growth, maturity) will require information, advice, and assistance. Services are required to advise and support farmers in the identification, preparation, design, and implementation of efficient farm businesses. Farmers' advice and support must extend further than the traditional production-led services. Farmers' assistance requirements are substantially larger, including all facets of running a viable, market-oriented farm activity.

(6) Social barrier

Farmers face social barriers to entrepreneurship as well. The concept of entrepreneurship is not shared by all cultures or societies. Fear of rejection can be a deterrent. Innovation and creativity are not always highly valued characteristics. In business, women are usually disregarded or even rejected. In certain societies, individual companies might be little more acceptable than collective ones. Extension workers need to be aware of these social boundaries and assist farmers in overcoming them.

(7) Market constraints

Production in a farm business must always be connected to a market. Access to marketplaces is frequently hampered by a variety of factors. These include poor communications, infrastructure, and marketing facilities, a scarcity of quick and correct market data, a dearth of purchasing power, and even negative buyer attitudes.

Scope for Research in Agri-Entrepreneurship in India

(1) India has a diverse agro climate, which aids in the production of temperate, subtropical, and tropical agricultural products.

(2) Economic expansion will be boosted by increased exports. The Indian economy is anticipated to increase by 9.2% in real terms in 2021–22, after a fall of 7.3% in 2020–21 (Ministry of Finance, 2022). In real terms, GDP is expected to expand by 8–8.5% in 2022-23. Demand is predicted to grow by 7.0% in 2021–22, with GFCF (Gross Fixed Capital Formation) increasing by 15%, exports increasing by 16.5%, and imports increased by 29.4%.

According to the World Trade Organization (WTO), India does have enormous potential to reclaim its current position in the global trade of both raw and processed agricultural commodities. At the moment, agricultural commodities are processed only at the primary level, but as living standards rise, opportunities available for secondary and tertiary production of agricultural commodities will expand further.

(3) The livestock wealth allows for a wide range of products such as meat, milk products, poultry products, and so on.

(4) Farmers should be motivated and educated about organic farming as it has enough potential in India because pesticide and inorganic fertilizer use is still lower in India as compared to other industrialized countries.

(5) Due to a plateau in the productive output of high-yielding varieties, hybrids and genetically altered crops have enormous potential in Indian agriculture in the near future.

(6) Due to dwindling state financial resources and the downsizing of current government agricultural extension workers as consulting services, competent human resources in agriculture and its allied sectors will be needed for the expansion of agricultural extension system.

(7) Micro-irrigation systems and labour-saving farm equipment have potential in the coming years due to declining groundwater levels and labour scarcity for agricultural operations such as weeding, transplanting, and harvesting.

(8) There are numerous opportunities for the development and promotion of bio-pesticides.

(9) Vegetable and flower production can also be harnessed for export under greenhouse conditions.

(10) Because of increased agricultural production, job opportunities in marketing, transportation, storage facilities warehousing services, credit, insurance, and logistical support services has increased.

Conclusion

India being predominantly an agriculture-based economy needs to strengthen its agriculture sector to stand as a strong nation globally. While advancement in technologies related to the development of agribusiness projects a hope, encouragement of entrepreneurship is of utmost importance to raise its economic stature. Advancement in technologies and their dissemination to farm level requires a robust channel for a productive agri-entrepreneurship. It is needed to encourage farmers, especially those with small landholdings to adopt entrepreneurship suitable to local conditions. A suitable business model can guide the establishment of an economically viable entrepreneurship module. Importantly, a robust value chain should be developed to link farmer's produce to the market. The role of government

policies and research institutes is quite important to support entrepreneurship programs through training and by providing solutions to farmers' problems.

Limitations of the Study

The present study primarily focusses on providing an overview of present status and scope of agri-entrepreneurship in increasing farmers' income for socio-economic upliftment of rural mass of the country. The study, however, provides only qualitative analysis based on the data and figures from articles, newspapers, and government policies. The study can be further continued by collecting data with appropriate statistical analysis for more in-depth and intensive study reflecting the present status and role of agri-entrepreneurship in boosting the Indian agricultural economy.

Scope for Further Research

The present study provides an overview of the present status of agri-business in India and projects the role of agri-entrepreneurship as a promising venue for increasing farmer's income. It provides a reference to budding agri-entrepreneurs to identify different constraints affecting agri-entrepreneurship start-up. Briefly, there is a need for considering the structure of business model, effective operation of value chain along with benefits from current government policies to ensure profitable returns from any agri-entrepreneurship initiative. However, the present study encompasses qualitative assessment of the role of agri-entrepreneurship in establishing profitable agribusiness. The study can be translated into multiple case studies by collecting quantitative data on the impact of agri-entrepreneurship from different rural regions, particularly from the states of Himachal Pradesh, Punjab, and Jammu Kashmir where a large portion of human resources is involved in agriculture related activities. Also, a significant number of industries with agri-based products have emerged in these regions in recent times. There is immense scope of such studies involving larger sample size with appropriate statistical analysis to reflect on the role and limitations of initiating agri-entrepreneurship for profitable business.

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Authors' Contribution

Babita Kaundal collected data, carried out the literature review and drafted the manuscript. Saurav Vyas helped in data analysis and drafted the manuscript. Sukhjinder Singh conceived the objectives, scope of the study, and finalised the manuscript.

Conflict of Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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