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Policy and Institutional Support for Agri- Entrepreneurship Development in India: A Review

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ABSTRACT

As per NSSO data, 40% of the farmers feel that they would quit agriculture, if given a chance. The possible reason may be that agriculture per se is not that remunerative as the average income of Indian farmer has gone up only 20-30 times since 1970's to 2015 whereas for other professions like school teachers, government employees and college professors it has risen 280-320 times, 120-150 times and 150-170 times, respectively. Only few farmers with appropriate business acumen are able to shift the focus from subsistence based and are getting profit owing to their entrepreneurial qualities. There is hardly proper appreciation of farmers as actors in the innovation system, little information provided about different sources of knowledge involved, or the flow of knowledge and little attention to long-term impacts on livelihoods. Extending entrepreneurial opportunities was prioritized in the Twelfth Plan which envisages that identification of rural enterprises and supporting their enterprises through setting up of common facility centres to ensure all important services including technology and skill training, entrepreneurship training, market information, access to institutionalized credit, power and other infrastructure and related facilities are readily provided. It was also emphasized in the roadmap of the Central Government Agenda to attain agricultural growth rate of 4%. The paper is an effort to review the institutional arrangements as well as policy advocacy available for Indian farmers to develop farm level entrepreneurship.

Introduction

India has travelled a long way from being an importer to one of the largest producers of food grains through green revolution era of late sixties to post green revolution. The current food grain production is estimated at a record 291.95 million tonnes (DACFW, 2020). From an era of food crisis to now, for almost 70 years, farmers have toiled hard to produce bumper harvests. Year after year, the records have tumbled. For a country, which not too long ago was following a 'ship-to-mouth' existence, with food aid rescuing a large section of the population from starvation; the valiant farmers and scientific community together have pulled the country out of the throes of what was predicted to be a fit case for mass slaughter. For a country which witnessed 28 famines during the British Raj, the remarkable turnaround was only made possible by a valiant farming community. Defying all prediction, famine has become history in India (Sharma, 2017). India has grown out to be a nation with rising levels of productivity and record-breaking production, each year since 1950s. In the 21st century India, every citizen has been assured food availability through National Food Security Act and an efficient Public Distribution System. Food grain production has

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been surpassed by horticultural production since the year 2016. According to the statistics, Food grain production has risen by 5.6 times, Horticultural production by 10.5 times, Milk production by 10.6 times, Fish production by 16.8 times and Egg production has risen by 52.9 times since 1950-51 (ICAR, 2017). Even during the time of COVID-19 pandemic, when every sector has posted negative growth rates in national GDP, agriculture was the only sector with a positive growth rate of 3.4% in the first quarter of 2020-21 (NSO, 2020). Agriculture sector in terms of food production has come a long way from importing to achieving self-sufficiency that paints an all good, rosy picture of Indian agriculture, but there is something beyond it and that is about the farming community. Despite a formidable success in food grain production, plight of the farmers continues. With successful extension services, Indian Council od Agricultural Research and Extension System has guided its farmers to tap the potential yield from a piece of land, but very few farmers are able to practice profitable farming. Although India has been extremely successful in enhancing food production, the farmer who toils to feed nation remains economically vulnerable.

In comparison with other professions farming has been least profitable despite of the increased productivity and record-breaking production figures since 1960s. The socio-economic situation of farmers is very vulnerable despite feeding a population of 1.3 billion Indians. It is a well-documented fact that agriculture has flourished, but farmers could not achieve higher economic gains from it. Farming community was unable to encash the increased agricultural production, the situation of farmers has remained as such. This is due to the post production vagaries in marketing and processing of the produce. The focus could not be shifted from production-led to market-led agriculture. Only few farmers with appropriate business acumen are able to shift the focus and are getting profit owing to their entrepreneurial qualities. Practice of farming in India is largely subsistence based thus farmers earn meager profits. India's gross national income (per capita), increased by about 2.3 times in the last decade (2000-10), leaving surplus money in the hands of Indian consumers. NSSO, (2014) indicated that cereal consumption has declined by 16.3% in rural and 12.4% in urban areas during the 1993-2012 periods whereas per capita consumption rose by 21 per cent in the case of fruits, 14 per cent in the case of vegetables, 11 per cent in the case of milk, and 23 per cent in the case of meat, eggs and fish during the same period. India is 14th largest agricultural, fishery, and forestry produce exporter and Indian agricultural commodities exports are likely to grow to Rs 6507 billion by 2022 from the present Rs 2342.7 billion. (Centegro) .India has the world's highest number of 10-24-year-olds, at 242 million, making it the largest youth population in the world (Swissnex India, 2015). Considering the creativity, innovativeness and enthusiasm of youth, a National Policy for Skill Development and Entrepreneurship (2015) has been formulated, and several programmes were initiated to motivate them to create new ventures. The best way to pull out farmers from distress is to induce business knowledge in them and promote them to utilize entrepreneurial intentions. There has to be a shift from production led to market led agriculture and innovative ways to market the produce. So, each farmer has to be entrepreneurial in nature to achieve higher profits. The Committee on Doubling Farmers' Income also recommended that "to gain positive net returns farm should be considered an enterprise and farmer as an entrepreneur" necessitating adoption of business principles. (Dalwai, 2018). Akhouri describes Entrepreneur as "a person who combines innovativeness, readiness to take risk, sensing opportunities, identifying and mobilizing potential resources, concerns for excellence and who is persistent in achieving the goal". Entrepreneurship is defined by Hishrich *et al.*, as the process of "creating something new with value by devoting necessary time and effort, assuming the accompanying financial, psychic and social risks and receiving the resulting rewards of monetary and personal satisfaction of independence". In agriculture, entrepreneurs are usually referred to as agri-preneurs defined as "entrepreneur whose main business is agriculture or agriculture-related". Agricultural Entrepreneurship can be defined as entrepreneurship being primarily related to the marketing and production of various agricultural inputs and products.

Agripreneurship is not only an opportunity, but also a necessity for improving the production and profitability in agriculture and allied sector. This is the need of the hour as the people are facing growing unemployment and poverty in rural areas. At current scenario, the five below mentioned points formulate the scope of agri-entrepreneurship in India. (Sivakumar, 2018). Agricultural entrepreneurship through value addition has been promoted as an instrument for securing food security and reducing poverty. Ravallion and Datt, 1996 estimated that a one per cent rise in agricultural value added per hectare results in a 0.4 per cent and 1.9 per cent reduction in poverty in the short- and long-run, respectively. With more than 50% of population contributing to less than 20% GDP, most of the workforce involved is either under employed or disguisedly employed. To create a more balanced economy of the nation involving all three sectors, such population needs to be pulled out to other sectors within the rural setting. An entrepreneurial ecosystems are peculiar systems of interdependent actors and relations directly or indirectly supporting the creation and growth of new ventures. Ecosystems including the social and the economic environment that affect local or regional entrepreneurship. Businesses located within places serving as incubators for creativity, innovation, and entrepreneurship have a greater chance of success (Wikipedia). In agriculture, there are four major players that includes, a) Institutions that provide technical support and knowledge base for the ventures, b) Facilities might include training programmes, incubation facilities and infrastructure availability for entrepreneurs, c) Investors are responsible for funding and venture capital investment in ventures that might include private firms, individuals or public institutes and d) Policy support provided by the government that is mainly concerned with providing ease of business and funding through different agencies strategically. Amongst all the factors, those related to agricultural policy and institutional frameworks are of utmost relevance because they affect agricultural performance most directly and also are controllable to a certain extent by policy-makers (Andreoni and Chang, 2014). It is believed

that emerging entrepreneurs require some handholding at least in initial stage of their business which is quite difficult without strong support system and policy backing. Unique needs of rural entrepreneurs can be addressed through a holistic approach that places high-quality small business and life skills training alongside relevant technical training (Nain *et al*, 2019).

Government policies promoting agri-entrepreneurship

In recent times, the Government of India has brought out certain policies like RKVY-RAFTAAR, Initiative for Development of Entrepreneurs in Agriculture, Venture Capital Scheme, Stand up India and Start up India. Apart from this, Government of India has created a separate Ministry of Skill Development and Entrepreneurship and National Policy on Skill Development and Entrepreneurship in 2015. Under the aegis of same ministry, Agriculture Skill Council of India has been entrusted for capacity building of farmers, wage workers, self-employed and extension workers engaged in agriculture & allied sectors.

The unorganized food processing sector comprising nearly 25 lakh units contributes to 74% of employment in food processing sector. Nearly 66% of these units are located in rural areas and about 80% of them are family-based enterprises supporting livelihood in rural household. These units face a number of challenges which limit their performance and growth. These challenges include lack of access to modern technology & equipment, training, access to institutional credit, lack of basic awareness on quality control of products, and lack of branding & marketing skills, etc. Therefore, the unorganized food processing sector contributes much less in terms of value addition and output despite its huge potential. Capacity building of entrepreneurs through technical knowledge, skill training & hand holding support services, increased access to credit to existing entrepreneurs for technology upgradation, support for transition of existing enterprises into formal framework for registration under regulatory framework and compliance and integration with organized supply chain by strengthening branding & marketing has been targeted with PM-Formalization of Micro Food Processing Enterprises Scheme. One District One Product Approach to reap benefit of scale in terms of procurement of inputs, availing common services and marketing of products is in vogue.

Through Atal Innovation Mission (AIM), set up by the NITI Aayog to promote innovation and entrepreneurship in the country at various levels - higher secondary schools, engineering and higher academic institutions, and SME/MSME industry, corporate and NGO levels. Long term goals of AIM include establishment and promotion of Small Business Innovation Research and Development at a national scale (AIM SBIR) for the SME/MSME/startups, and in rejuvenating Science and Technology innovations in major research institutions of the country like CSIR, ICAR and ICMR aligned to national socio-economic needs. Venture Capital Assistance Scheme, implemented by Small Farmer's Agribusiness Consortium provide Venture Capital to qualifying projects on the recommendations of the Notified Financial Institution (where the ownership of the Central/State Government is more than 50%) financing the project. Agri-Clinics and Agri-Business Centres (ACABC), implemented by Ministry of Agriculture and Farmers Welfare in association with MANAGE and NABARD aims to tap the expertise available in the large pool of Agriculture Graduates. Irrespective of whether a fresh graduate or not, or whether currently employed or not, one can set up own Agri Clinic or Agri Business Centre and offer professional extension services to farmers. Coir Udyami Yojana (CUY), implemented by the Coir Board is a credit linked subsidy scheme for setting up of coir units with project cost up to Rs.10 lakhs plus one cycle of working capital, which shall not exceed 25% of the project cost. Working capital will not be considered for subsidy.

Diary Entrepreneurship Development Scheme of NABARD aimed at generating self-employment opportunities in the dairy sector, covering different activities by providing back ended capital subsidy for bankable projects. A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship (ASPIRE), implemented by Ministry of Micro, Small and Medium Enterprises aims to set up a network of technology centres and to set up incubation centres to accelerate entrepreneurship and also to promote startups for innovation in agro industry. It has two components; Livelihood Business Incubators and Technology Business Incubators. Initiative for Development of Entrepreneurship in Agriculture (IDEA), implemented by Ministry of Development of North East Region intends to promote agri-business ventures in the North-East Region and assist in establishing agri-business as a profitable venture. It also provides gainful employment opportunities and makes available supplementary sources of input supply and services. The objective of the National Policy on Skill Development and Entrepreneurship, 2015 is to meet the challenge of skilling at scale with speed and standard (quality). It aims to provide an umbrella framework to all skilling activities being carried out within the country, to align them to common standards and link the skilling with demand centres. In addition to laying down the objectives and expected outcomes, the efforts to identify the various institutional frameworks which can act as the vehicle to reach the expected outcomes are also on cards. The national policy will also provide clarity and coherence on how skill development efforts across the country can be aligned within the existing institutional arrangements. This policy linked skill development to improved employability & productivity.

Agriculture Skill Council of India is working under the aegis of Ministry of Skill Development & Entrepreneurship (MSDE). ASCI work towards capacity building by bridging gaps and upskilling the existing and prospective workforce. ASCI has forged partnership with 538 Training, 519 Industry and 7 Assessment partners. ASCI has developed 182 Qualification Packs and it has an enrollment of over 11 lakh trainees, of which 9 lakhs have been trained and assessed as of now.

There are other numerous entrepreneurship development programmes and policies by Government of India. Only those schemes which hold relevance in agriculture have been

dealt in detail. Other important schemes include; Women Entrepreneurship Platform (WEP) by NITI Aayog, Support to Training and Employment Programme (STEP) for Women by Ministry of Women and Child Development, Trade Related Entrepreneurship Assistance and Development (TREAD) Scheme for Women by Ministry of Micro, Small and Medium Enterprises , Prime Minister's Employment Generation Programme (PMEGP) by Khadi and Village Industries Corporation, Start Up India by Ministry of Commerce and Industry, Stand Up India by Ministry of Finance, Scheme of Fund for Regeneration of Traditional Industries (SFURTI) by Khadi and Village Industries Corporation, Scheme of Assistance to Training Institutions by Ministry of Micro, Small and Medium Enterprises. In general, majority of the policies and schemes are concerned for provision of equitable opportunities to entrepreneurs. Policies chart out a framework and strategy for entrepreneurship development and provide financial assistance for the same.

Institutions promoting agri-entrepreneurship

The support system could consist of either educational or training institutions or entrepreneurship promoting government policies. The institutions like National Institute of Agricultural Extension Management (MANAGE), National Academy of Agriculture Research and Management, Indian Agricultural Research Institute and National Institute of Agriculture Marketing are in the front lines creating Agri-Business Incubation cells to promote agripreneurship. Indian Council of Agricultural Research has also introduced two important programmes Attracting and Retaining Youth in Agriculture (ARYA) and Student-READY (Rural Entrepreneurship Awareness Development Yojana) to encourage the entrepreneurial intent among youth. Institutions like National Institute of Entrepreneurship and Small Business Development (NIESBUD) and National Institute of Micro, Small and Medium Enterprises (NIMSME) also promote rural entrepreneurship that is very relevant to agri-business. Following are few important institutions and their contribution:

The **Indian Council of Agricultural Research** is an autonomous body responsible for coordinating agricultural education and research in India. ICAR is bestowed with the task of farmers' welfare through quality research and educating the graduates. The changing needs of industry and marketing concerns of farming community have mandated the promotion of agri-tech start-ups and entrepreneurship in mainstream agricultural education system of India. the ICAR has brought out different initiatives as noted below. A strong need was felt by different committees, (refer Box-1) in order to initiate reforms in agricultural education to include entrepreneurship as a compulsory course in graduate and post graduate curriculum. Hands-on-experience was also found to be lacking among the students. Three initiatives in the form of Basic Courses at Under Graduate, Post Graduate and Doctoral Level, Student- Rural Entrepreneurship Awareness Development Yojana (READY) and Attracting and Retaining Youth in Agriculture (ARYA) have been introduced at different levels to promote entrepreneurship. The ICAR is actively promoting establishment of ABIs' by its subordinate institutions for commercialization of technology by forging partnerships with private agencies and industry experts. Apart from the four above mentioned ABIs', around 25 incubators have been established as R-ABIs' under RKVY-RAFTAAR. Technical and financial support is given by ICAR for their establishment. The ZTM-BPD Unit is the one-stop show window of ICAR institutions to connect public sector agri-technologies to the corporate world and medium and small enterprises (MSMEs) in a business mode giving due importance to the intellectual property management, commercialization and incubation. The aim is to encourage, protect, market and license the technologies developed by agricultural scientists to the industry with a focus on incubation process including Start-Ups and Farmer Producer Organizations (FPO). The ICAR institutions have been grouped into five zones that are headed by Indian Agricultural Research Institute, New Delhi (North Zone), Indian Veterinary Research Institute, Izatnagar (North Zone), Central Institute for Research on Cotton Technology, Mumbai (West Zone), National Institute of Research on Jute and Allied Fibre Technology, Kolkata (East Zone) and Central Institute of Fisheries Technology, Kochi (South Zone) that are responsible for commercialization of ICAR technologies of all the institutes within their zones. ICAR-IARI has played a mentorship role in the capacity of Zonal Head in ZTM-BPD and as a Knowledge Partner in RKVY-RAFTAAR. The institution runs its own incubator PUSA KRISHI Incubator.

National Institute of Agriculture Extension Management (MANAGE), Hyderabad, **e**stablished as an autonomous institution under Ministry of Agriculture and Farmers' Welfare in 1987 is facilitating the acquisition of managerial and technical skills by Extension Officers, Managers, Scientists and Administrators in all sectors of Agricultural economy to enable them to provide most effective support and services to Farmers and Fishermen for practicing Sustainable Agriculture. For capacity building of the stakeholders, MANAGE conducts three training programmes; Skill Training of Rural Youth (STRY) & Farmer's Capacity Assessment and Certification (FCAC) Diploma in Agricultural Extension Services for Input Dealers (DAESI and Agri-Clinics and Agri-Business Centres (ACABC). **Centres for Innovation and Agripreneurship (CIA) is hosted at MANAGE** aimed at providing a one-stop solution for creating successful ventures in agriculture & allied sectors. Agri Innovation Launchpad will empower to fulfil the demands of agricultural sector for aspiring enthusiasts and entrepreneurs. CIA navigates innovation from Ideation to full-scale commercialization, with unique methodology, that gives a robust ecosystem from discovering ideas to delivering high-value proposition in a sustainable environment. The centers' main focus is to promote the development of innovative products of Start-ups, which cater to the most disruptive problems in the agricultural sector. It aims at creating more employment opportunities and wealth creation, thus adding to the inclusive growth of the country's GDP. In order to effectively implement and monitor AC & ABC scheme **Centre for Extension Innovations, Reforms & Agripreneurship (CEIRA)**has been functioning at MANAGE

Box 1 Policy documents supporting Agri-Entrepreneurship in curriculum

National Commission on Farmers-2006 MS Swaminathan Committee suggesting certain curricular reforms for Agricultural Universities, advocated that the goal of the universities should be "Every Scholar an Entrepreneur"	**Fifth Deans' Committee -2017** • The committee reiterated the opinion that "Education for Agriculture in the 21st Century and the Third Generation Universities should have the goal that every agricultural graduate becomes an entrepreneur". • Introduction of compulsory courses in all disciplines of agriculture and allied sciences for theoretical knowledge and Student READY for gaining practical exposure at the final year of graduation. • Committee assessed that employability of graduates is poor due to lack of relevant practical skills, entrepreneurial aptitude, self-employment, leadership qualities and confidence among graduates.
Committee on Doubling Farmers Income-2018 One of the weaknesses has been the neglect of social sciences in agricultural education & research and post-harvest management. Both aspects are vital to the farmers' income centric approach and necessary to advance agriculture from mere cultivation mindsets focused on outputs, into enterprise mode with focus on outcomes (income and social change)	**Draft National Education Policy-2019** • Criticizing the capacity and quality of agriculture graduates, curricular reform providing knowledge and hands on training of entrepreneurship education, innovative research, market-based extension linkages is suggested. (Also included in National Education Policy-2020) • Despite of high demand in the government, private and development sector for graduates, particularly high value agro-industry, food processing and specialized knowledge-intensive areas but the graduates are not updated with such knowledge. • Employability of graduates needs to be checked to cater needs of industry as well self-employment • Graduates should be encouraged to set up agri-clinics by adequate incentives and subsidy.

from October 2009. In order to give further boost to the scheme and to improve quality and quantity of the training programmes, handholding activities, resolving problems of agri entrepreneurs an exclusive center has been established. The center is headed by The Director and assisted by Six Consultants to look after five geographic areas of the country for effective implementation and monitoring of the scheme.

ICAR-National Academy of Agriculture Research Management (NAARM) is the only institution of its kind in the world focusing on capacity building in agricultural research and education management established by ICAR in 1976 at Hyderabad. The primary objective of NAARM is to enhance individual and institutional capacities in National Agricultural Research Systems (NARS) for innovation and sustainable agricultural development.

Association for Innovation Development of Entrepreneurship in Agriculture (a-IDEA) has successfully supported more than 64 Agri startups in 4 years. Best Agri incubator awarded by GoI. An Agri Incubator which runs cross functional programs including Incubation-Acceleration and Seed funding. ~25% of the startups supported by a-IDEA raised funding from investors. It has a network of 40+ Institutional Mentors and 75+ Investors in Agriculture. It works through SAMVAD, KRISHI-KALP, a-IDEA and AGRI UDAAN. SAMVAD is Sensitization workshops of one day motivational programs to sensitize the students in Agriculture universities and other colleges to make them realize the importance of entrepreneurship. KRISHI-KALP is a Ideation event to identify creative ideas on agriculture from the students. This Krishikalp acts as a platform to attract the innovative technology and business based ideas from the students representing agriculture colleges and management institutions. a-IDEA is an Agriculture focused incubator for supporting startups in Agri, Allied and Agri Biotech sectors. a-IDEA nurtures and provides support to the startups in the initial and critical stages of a new startup venture through customized and focused incubation support and mentoring. AGRI UDAAN is a unique platform for scale-up stage innovators, entrepreneurs and startups in Food and Agribusiness sectors to showcase their products/services and to receive valuable inputs from Mentors, Incubators, R&D Institutions, Agribusiness Industry and Investors.

National Institute of Micro, Small and Medium Enterprises (NI-MSME), Hyderabad, under the Ministry of Micro, Small and Medium Enterprises has been working in the areas of capacity building, research, skill upgradation, job enrichment training in the field of Entrepreneurship and Skill including the development of women pursuing small trades at the cottage industry level from an Incubation center at NI-MSME. It conducted a Pioneering Research Study in Achievement Motivation in association with Prof. David McClelland's Kakinada Experiment (1964). There are four schools of NI-MSME namely School of Enterprise Extension (SEE), School of Enterprise Development (SED), School of Enterprise Management (SEM), School of Enterprise Information & Communication (SEIC). Through the four schools, NI-MSME undertakes number of training programmes for entrepreneurship development in primary sector. NI-MSME undertakes special efforts for promoting agri-entrepreneurship by providing training and extension services. It is involved in capacity building and works as a Trainer's Training Institute that imparts knowledge to trainers who further train others.

The National Institute for Entrepreneurship and Small Business Development (NIESBUD) is a premier organization of the Ministry of Skill Development and Entrepreneurship, engaged in training, consultancy, research, etc. in order to pro-

mote entrepreneurship and Skill Development.The major activities of the Institute include Training of Trainers, Management Development Programmes, Entrepreneurship-cum-Skill Development Programmes, Entrepreneurship Development Programmes and Cluster Intervention. NIESBUD has provided training to 12,24,433 persons as of March 31, 2020 through 46,438 different training programmes since inception including 5,011 international participants hailing from more than 145 countries throughout the globe. NIESBUD has designed the Trainer's Training Programme on Employability, Entrepreneurship and life Skills for the NSDC training Partners all over India.

International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), Hyderabad, is an international organization which conducts agricultural research for rural development, with several regional centers. It was founded in 1972 by a consortium of organisations convened by the Ford and the Rockefeller foundations. Its charter was signed by the FAO and the UNDP. Since its inception, India has granted a special status to ICRISAT as a UN Organization operating in the Indian territory making it eligible for special immunities and tax privileges. It was the first Agri-Business Incubator to be set up in India in the year 2003. The Agri-Business Incubation (ABI) program is an initiative of ICRISAT under the Agribusiness and Innovation Platform (AIP) in partnership with the DST to promote public-private partnerships. It is a pioneering initiative for Agri-Business Incubation that maximizes the success quotient of start-up enterprises by offering them best opportunities with minimum risk. The ICRISAT-ABI was set up with the purpose of started for promoting technologies of ICRISAT that could be commercialized. It has functioned as an Incubator of Incubators that provides technical backstopping for the setting up of incubation centers for other institutions. Over 75 incubators have been successfully launched by the help of ICRISAT-ABI. Many successful startup companies which ABI has supported are a testimony to its unparalleled expertise in promoting agribusiness in the country.

There are other important institutions that promote entrepreneurship in primary sector and rural sector include, Indian Institute of Management (IIM) at Ahmedabad, Institute of Rural Management (IRMA), Anand , Indian Institute of Plantation Management (IIPM), Bengaluru and CCS National Institute of Agricultural Marketing (NIAM), Jaipur. In general, most of institutions are concerned for provision technical support and incubation facilities to entrepreneurs. The institutions are mainly providing technical backstopping and provide a connecting link to industry, experts and investors.

The way forward

In general, majority of the policies and schemes are concerned for provision of equitable opportunities to entrepreneurs. Policies chart out a framework and strategy for entrepreneurship development and provide financial assistance for the same. Institutions are concerned for provision technical support and incubation facilities to entrepreneurs. The institutions are mainly providing technical backstopping and provide a connecting link to industry, experts and investors.

There are three kinds of entrepreneurs in entrepreneurship eco system. That could include Farmer-entrepreneurs, Non-farm entrepreneurs and Corporates/Private institutions. The following are few enterprises under these categories are a) Farmer entrepreneurs: Mushroom cultivation, Exotic vegetables cultivation, Pickle making, Agro-tourism, Fish farming, Dairying, Animal husbandry etc. b) Non-farm entrepreneurs: Involvement Supply chain, Cold storage, Artificial insemination & semen trade, Agri clinics and Agri Businesses, Fertilizer trade, Consultancy services, Custom hiring centres etc. c) Corporate/Private institutions: Big data analytics and App based marketing of farm produce. Most of the enterprises are usually undertaken by either medium or large farmers who can handle the risk but these are seldom undertaken by small and marginal farmers who are majority in our country.

According to 2011 Census data, Indian farming community comprises of 67.1% Marginal and 17.9% Small farmers (total 85%). Landholdings are well below the threshold that is economically viable. Also holding access to larger land provides an incentive to make investments, and increases the ability of the poor to access credit.

From the table 1 it can be observed that the trend in farmer's average annual income has steadily increased and in the year 2015-16 it was at Rs. 44,027 per annum (Chand, 2017). With such meagre amount at hand, maintaining basic needs of the family would be more important. But starting an enterprise requires higher investment that is not possible with low amount of liquidity that the Indian farming community generally has. Same data also says that, out of the 263 million agricultural workforce, 118.8 million (45.1%) of them are cultivators and 144.3 million (54.9%) are agricultural labourers. NSSO data on Situation Assessment Survey of Agricultural Households (Jan-Dec, 2013), reports that nearly 51.9% of total agricultural households in India are indebted. Such conditions are not congenial for promoting entrepreneurship amongst the landless labours and small farmers. It can be observed from the study by Jha, (2019) that for a marginal & small farmer, holding less than 2 hectares of land, the monthly income was around 17 thousand rupees which is far less that the average per capita income of the nation. Such low amount of income cannot be invested in enterprises by assuming the risk that is involved in entrepreneurship.

From the data available, regarding farm incomes and considering the low economies of scale that the Indian farming

Table 1 Trend in farmer's annual income

No.	Year	Income (in Rs.)
1.	1993-94	21110
2.	1999-00	26875
3.	2004-05	26146
4.	2011-12	43258
5.	2012-13	41553
6.	2013-14	42760
7.	2014-15	43106
8.	2015-16	44027

community achieves, in generating surplus income, entrepreneurship promotion is difficult. Due to small and fragmented landholdings and other problems, entrepreneurship promotion among small and marginal farmers requires a different strategy that could cater to their special needs and problems. Majority of the policies and subsidy schemes are directed towards wealthy farmers who form very less proportion of the farming community and they could have been entrepreneurs anyway without handholding from the policy support.

Employment in agriculture accounts to 44% of the overall employment but still contributes only 16% of Gross Value Added, according to the recent Periodic Labour Force Survey conducted by NSSO. Further, Services amount to 31% of total employment yet it provides over 54% of the GVA. Industry share of the employment stands at 28% and its contribution to GVA is about 30% (MoSPI, 2020). There is an imbalance in the economy due excess and disguised unemployment of the workforce in agriculture. Small industries and supply chain services act as connecting ends to primary sector must be promoted to keep population within rural areas but pulling them out from the agriculture to industry and service sector. Timely and adequate supply of credit is a basic requirement of small farm families. Expand the outreach of the formal credit system to reach the really poor and needy. Although institutional credit is pushed by the government but it is inaccessible to the poor and needy since it requires mortgage for availing it.

There is least awareness about agri-entrepreneurship and business knowledge needed to run an enterprise. There are not much technically competent people to promote entrepreneurship. Developing core competency among agricultural graduates by revamping the curricula must adjust the formal and non-formal training programmes, syllabi and outreach programmes, particularly of the KVKs for employment-oriented activities related to agro-processing, value-addition and other post-harvest activities which are bound to create additional employment opportunities. Reinventing agricultural extension to entrepreneurial extension (like Kerala Veterinary University) must be pushed further to encourage entrepreneurship. Microfinance policies should be restructured to serve as Livelihood Finance, i.e. credit coupled with support services in the areas of technology, management and markets. Giving out smaller amount of credit for longer duration of time ensures steady amount of inflow for small and marginal farmers that can be invested or can be made use to handle the financial crunch that might arise suddenly.

It is said that "organisation is one of the best inventions that the man has made". Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale. Besides, in agricultural marketing, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. Through aggregation, the primary producers can avail the benefit of economies of scale. They will also have better bargaining power vis-à-vis the bulk buyers of produce and bulk suppliers of inputs. Like IIT's and IIM's have outsourcing centres wherein students can pitch their ideas and create an enterprise with a Minimum Viable Product (MVP) while graduation with the help of professors. That could further be worked upon and a sustainable plan could even receive seed funding from the institution itself, the SAU's must have Bureaus for Outsourcing Business in Agriculture on the same model. Universities and research institutions should have some centres where in farmers can test their product in a small scale before they create fully functional industries. For example: Michigan University has MSU Food Processing and Innovation Centre. The Universities could promote not only entrepreneurial abilities of the graduates but also help them establish businesses for themselves, such as agri clinics, soil and water-testing facilities, agri-machine hiring and repair facilities, seed production and distribution, etc. University centres should establish employment and business advisory services and promotion centres not only for their own graduates but also for other youths.

Conclusion

We are asking the farmer to diversify to mitigate the risk. At the same time, if he wishes to be an entrepreneur, he should have a certain minimum amount of crop for processing or entrepreneurial venture. Although, most of the institutions are catching hold of fairly successful farmers and brand them as entrepreneurs and take credit as their own but Central Sector Scheme of financing facility under the Agriculture Infrastructure Fund supports farmers, PACS, FPOs, Agri-entrepreneurs, etc. in building community farming assets and post-harvest agriculture infrastructure. Efforts to get greater value for farmers' produce to store and sell at higher prices, reduce wastage, and increase processing and value addition are in vogue through various schemes. The schemes like the PM-KISAN scheme of Rs. 17,000 Crore to nearly 8.5 Crore farmers and cash benefit transfer directly to their Aadhaar verified bank accounts with the press of a button are newer opportunities. The opportunities available to an individual farmer or entrepreneurs is dynamic and changes quickly in response to the changing environment, market, institutions, capacity, skill and technology. For example, replacement of the labor with machinery may not change sectoral productivity, but, creates a big opportunity for the innovators, machinery producer and farmers. Therefore, the possibility curve for the individual is more dynamic than the sector. Hence, entrepreneurs can achieve a high growth rates irrespective of the rate of growth of the sector.

References

Agriculture Skill Council of India (2019). Sowing skills & Harvesting Opportunities. Ministry of Skill Development & Entrepreneurship, New Delhi.

Andreoni, A and Chang, H. J (2014). Agricultural policy and the role of intermediate institutions in production capabilities transformation: Fundación Chile and Embrapa in action. Proceedings of DRUID Society Conference 2014, CBS, Copenhagen.

Chand, Ramesh. (2017). Doubling Farmer's Income: Rationale, Strategy, Prospects and Action Plan. National Institution for Transforming India, New Delhi

Chintala, G.R. (2019). Compendium of instructions for implementation of revised Agri-clinics and Agri-business centres (ACABC) Scheme -2018. Ministry of Agriculture and Farmers' Welfare, New Delhi.

Dalwai, A (2018). Report of the Committee on Doubling Farmers' Income. Volume XIV. Ministry of Agriculture and Farmers Welfare. Retrieved on 26/10/2020 from http://farmer.gov.in/imagedefault/DFI/DFI_Volume_14.pdf

Department of Agriculture, Cooperation and Farmers Welfare. (2020). Second advance estimates of Food grains, Oilseeds and Other Commercial Crops for the year 2019-20. Retrieved on 12/10/2020 from http://agricoop.nic.in/statistics/second-advance-estimates-production-foodgrains-oilseeds-and-other-commercial-crops-year

Department of Animal Husbandry, Dairying and Fishing. (2010). Diary Entrepreneurship Development Scheme. Retrieved on 14/10/2020 from https://dadf.gov.in/sites/default/filess/Dairy%20Entrepreneurship%20Development%20Scheme%20(DEDS).pdf

Government of India. (2005). Situation Assessment Survey of Farmers: Some Aspects of Farming, NSSO 59th Round (Report No. 496 (59/33/3)). Ministry of Statistics and Programme Implementation, New Delhi

Hisrich, R.D., Peters, M.P., and Shepherd, D.A. (2005.) Entrepreneurship (6thed.). New York: McGraw-Hill/Irwin.

Indian Council of Agricultural Research. (2017). About ICAR. Retrieved on 12/10/2020 from https://icar.gov.in/content/about-us

Info Dev. (2014). Agribusiness Incubator at ICRISAT - India Case Study. World Bank. Washington, DC.

Jha, Abhishek. (2019). Rs 6,000 is 6% of a small farmer's annual income, according to NSSO data. *Hindustan Times*. Retrieved from https://www.hindustantimes.com/india-news/rs-6-000-is-6-of-a-small-farmer-s-annual-income-according-to-nsso-data/story-rddMw0hk6cSbxjo7E1GyKK.html

Kasturirangan, K. (2019). Draft National Education Policy-2019. Ministry of Human Resource Development. Government of India, New Delhi. 305p.

MANAGE. (n.d.) Schemes for Agripreneurship Development. Retrieved on 15/10/2020 from https://www.manage.gov.in/Default.asp

Ministry of Food Processing and Industries (2020). Vocal for Local: PM-Formalization of Micro Food Processing Enterprises (PM-FME) Scheme. Retrieved on 11/10/2020 from https://mofpi.nic.in/pmfme/SchemeBrochureI.pdf

Ministry of Micro, Small and Medium Enterprises (2015). ASPIRE: A Scheme for Promotion of Innovation, Rural Industries and Entrepreneurship. Retrieved on 12/10/2020 from https://msme.gov.in/sites/default/files/ASPIRE_EN.pdf

Ministry of Rural Development. (n.d.) National Centre for Excellence of RSETIs (NACER). Retrieved on 21/10/2020 from http://nacer.in/

Ministry of Skill Development and Entrepreneurship (2015). National Policy for Skill Development and Entrepreneurship: Policy Booklet. Retrieved on 25/10/2020 from https://www.msde.gov.in/sites/default/files/2019-09/National%20Policy%20on%20Skill%20Development%20and%20Entreprenurship%20Final.pdf

Ministry of Skill Development and Entrepreneurship. (2015.) Background. Available at: http://www.skilldevelopment.gov.in/background.html

NAARM. (n.d.) Centre for Agri-Innovation. Retrieved on 21/10/2020 from https://aidea.naarm.org.in/incubation-2/

Nain M.S., Singh. R., Mishra, J.R. and Sharma, J.P. (2019). Theoretical foundations of Agripreneurship Development Process: A study of best practices, facilitative factors and inhibitive factors of achiever farmers. *Journal of Community Mobilization and Sustainable Development,*14 (2), 373-77.

National Commission on Farmers. (2006). Saving Farmers and Saving Farming: Fifth and Final Report (Volume-II). Ministry of Agriculture, Government of India. New Delhi. 31p.

National Commission on Farmers. (2006). Saving Farmers and Saving Farming: Fifth and Final Report (Volume-I). Ministry of Agriculture, Government of India. New Delhi.

National Institute of Micro, Small and Medium Enterprises. Retrieved on 11/10/2020 from https://www.nimsme.org/Individual-Agro-Entrepreneurship

National Sample Survey Organisation. (2014.) *Nutritional intake in India, 2011-12. NSS 68th Round. (July 2011 – June 2012).* National Sample Survey Organisation, Ministry of Statistics and Programme Implementation, Govt. of India.

National Statistical Office. (2020). Estimates of Gross Domestic Product for the First Quarter (April-June) 2020-2021. Ministry of Statistics and Programme Implementation, Government of India.

NIESBUD. (n.d.). About NIESBUD. Retrieved on 21/10/2020 from https://niesbud.nic.in/objective.htm

NITI Aayog (2019). AIM to Innovate: Atal Innovation Mission. Retrieved on 21/10/2020 from https://aim.gov.in/AIM_Brochure.pdf

North Eastern Development Finance Corporation. (n.d.) Initiative For Development Of Entrepreneurs In Agriculture (IDEA). Retrieved on 24/10/2020 from https://www.nedfi.com/node/97#:~:text=Objectives%20%3A&%20Agri,opportunities%20in%20Agri%2Dbusiness%20Ventures.

Ravallion, M, and Datt, G. (1996.) How important to India's poor is the sectoral composition of economic growth? *World Bank Economic Review.* 10:1–25.

RKVY Division. (2018). Operational Guidelines For Innovation And Agri Entrepreneurship Cell Under RKVY-RAFTAAR. Ministry of Agriculture and Farmers Welfare, New Delhi.

RUDSET Institute. (n.d). About RUDSETI. Retrieved on 14/10/2020 from http://rudsetitraining.org/web/about-rudseti/

Sharma, Devinder. (2017). What 70 years of Independence has meant for the farmer, once pride of the nation. Your Story. Retrieved on 07/10/2020 from https://yourstory.com/2017/09/agrarian-crisis-india-at-70?utm_pageloadtype=scroll

Singh, R.B. (2017). Fifth Deans' Committee Report. Agriculture Education Division, Indian Council of Agricultural Research, New Delhi.

Sivakumar, S. (2018). Building Entrepreneurship through Agricultural Universities and Research Institutes. Blog of Agricultural Extension in South Asia. Retrieved on 14/10/2020 from https://www.aesanetwork.org/

Small Farmers' Agribusiness Consortium (n.d). Operational guidelines Venture Capital Assistance Scheme for Agribusiness Development. Retrieved on 12/10/2020 from http://sfacindia.com/VCA_Scheme.aspx

Swissnex India. (2015.) Social entrepreneurship in India – Unveiling the unlimited opportunities. Bangalore, Swissnex India l Consulate General of Switzerland. Retrieved on 12/10/2020 from http://www.swissnexindia.org

Vikaspedia. (n.d). Coir Udyami Yojana: A Central Sector Scheme. Retrieved on 11/10/2020 from https://vikaspedia.in/agriculture/policies-and-schemes/rural-employment-related-1/coir-udyami-yojana

Wikipedia. (n.d.). Entrepreneurship ecosystem. Retrieved from https://en.wikipedia.org/wiki/Entrepreneurship_ecosystem

ZTM-BPD. (n.d). Pusa Krishi Incubator. Retrieved on 24/10/2020 from http://pusakrishi.iari.res.in/index.html