

Agri Start-up in India: Opportunities and Performance in Indian Context

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Abstract:

India is the second-largest agricultural landholders with around 50% of Indians are making their livelihood from agriculture so the role of agri start-ups is so crucial in creating opportunities for peoples. Public institutes around the nation are consistently trying to make farmers' lives progressive by their policies. Because it matters how the Indian economy cares about 50% of people's hope with agriculture. As agriculture export has increased from 2011-12 to 2015-16 by a CAGR of 6.72% has been revealed that an increase in technology adoption is resulting in productivity enhancement. but a decline in groundwater, low quality of Agri input, and lack of expert personals in the field are some of the hurdles in the path of sustainability and profitability of farmers. Although the covid pandemic has taught us to cognize that sustainability starts from agriculture. Start-ups need to facilitate farmers towards their self-sustainability and also to become capable to have alternative income sources.

Keywords: Agri. start-ups, export, policies, progressive, technology.

Introduction

India is an emerging country in the context of start-up growth. Indian environment has tremendous growth potential toward creating innovative start-ups and becoming India, the 3rd fastest growing centre for technological start-ups (CNBC, 2019). Moreover, India became third in start-up ecosystem race forasmuch India is trying to get better its ease of doing business rank, in 2019 it was 77 and now in 2020 as per "World Bank's Ease of Doing Business Report 2020" it is improved by 14 ranks and stand on 63rd rank among 190 countries (World Bank, 2020). Moreover, other sectors link agriculture, Education, Health, Fintech, Space, Food, urban services are getting advantage of this emerging and supporting environment in India. Start-ups have been assisted by government support and corporate connect, which helped in raising around \$63 Billion in the last six years (start-up talky,

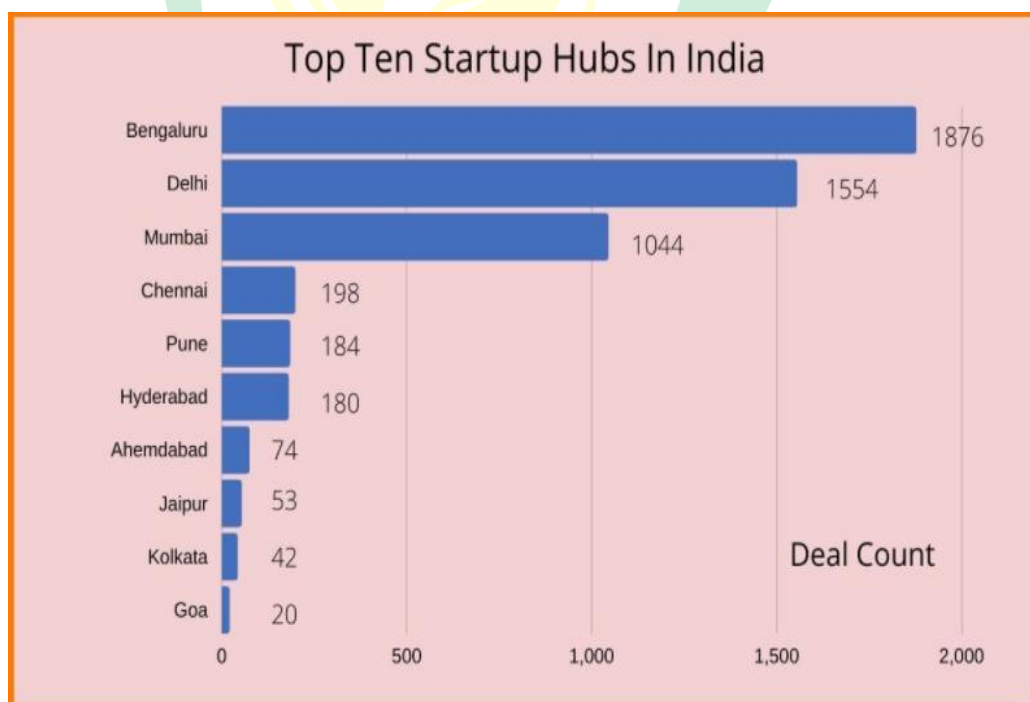
2020). Till the end of 2018, around 50000 start-ups were there in India with 15% annual growth rate approximately.

This milestone journey flourished with addition of 1300 more start ups by 2019 (Start-up India, 2020). Women are also not far behind in start-up journeys, with around 14% of total start-up in 2019, 10% and 11% in the previous two years (Start-up India, 2020). Government of India is trying to establish start-up policies to get the maximum advantage of its geographical diversity and has succeeded along with 26 states have start-up policy (Start-up India, 2020).

Furthermore, Big corporate also has realized the potential of Indian Start-up ecosystem. Facebook has collaborated with start-up India to distribute \$50,000 each for the selected start-ups through start-up India (Facebook Inc.). Other corporate are not left behind in this race, Gants like Google, Tata and Goldman Sachs, etc. (Start-up India, 2020).

The place where these growing start-ups will polish themselves is important because it needs infrastructure and other allied facilities to take a step ahead. India has cities that can fulfil the requirement of these start-ups. In 2020, Bengaluru again continued its title "silicon valley of India" (Spews, 2021).

Top Ten Startup Hubs in India:-



Source: Startuptalky



India's GDP growth should be there to achieve a \$5 Trillion economy, and without 9-10% annual growth, it is impossible. Agriculture revolution can help achieve this imaginary goal, and without Agri revolution, it is like a dream (Economics Time, 2019).

Objectives

1. To get an insight into the compassionate environment for Agri Stat-ups.
2. To get an insight into opportunities and challenges in Agri Start-ups.

Agri Start-ups in India

India's Government indicates a very high priority to the agriculture sector to double farmers' income and get profitable GDP growth. It also helps to continue youth interest in agriculture and its' allied sectors and tremendous employment opportunities.

To lay emphasis on agriculture revolution is very important because it can provide growth to 50% of the population, dependent on it (Jha). In order to flourish this goal, GOI had taken a step forward with "Innovation and Agri-Entrepreneurship Development Programme" in the mentorship of "Rashtriya Krishi Vikas Yojana "to promote and support agripreneurship in India (PIB, 2020). RKVY-RAFTAAR program was introduced to support innovation and entrepreneurship in the Agri sector. The program has created the largest agri incubators network, total 29 and each incubator is running incubation programs to support Agri start-ups. It supports agri-start-ups in scaling up their business and commercializing their products. Furthermore, RKVY has the motive to strengthen the existing R-ABI (50 ABICs) with the support of ICAR in terms of revival and development, seed-stage funding (85% grant up to a maximum of 25 lakhs), orientation for agripreneurship and idea stage funding. With this superfine support start-up in productivity, post-harvest, engagement and allied areas (Fisheries, Poultry, Animal husbandry, etc.) are functioning to take care of issues like improper infrastructure, market accessibility, and outdated equipment and supply management in agriculture.

Department of Science and Technology supports Agri entrepreneurs under its NIDHI-PRAYAS scheme, where financial assistance up to 10 lakhs is provided (Nidhi-Prayas, 2019). Department of Biotechnology supports agribusiness bio incubators under its Biotechnology Industry Research Assistance Council (BIRAC) wing. It also supports entrepreneurs under its Biotechnology Ignition Grant (BIG). This scheme aims to support those ideas which have an unmet need for funding and mentorship. Financial assistance up to



INR 50 Lakhs for research projects with a commercialization potential are provided under the scheme (Birac, 2020). Apart from this, Small Farmers' Agri-Business Consortium (SFAC) 's Venture Capital Assistance scheme is financial support in the form of an interest-free loan to qualifying projects (Sfac, 2017).

DAC&FW has partnered with institutes as a Knowledge partner to assure expert mentorship for emerging Agri start-ups –

1. NIAEM (MANAGE), Hyderabad
2. NIAM, Jaipur
3. IARI (PUSA), New Delhi
4. UAS, Dharwad, Karnataka
5. AAU, Jorhat, Assam

Under RKVY- RAFTAAR 29 Agri incubation centres also have been appointed (PIB).

✚ **NIAM** is a prominent institute in agriculture with expertise in agriculture marketing from the past 32 years. In between 2019(September) to 2020(March) CCSNAIM has assisted 59 RKVY-RAFTAAR incubates in B2B and B2C areas (finance market linkage, processing, consultancy service, AI for post-harvest management, cloud technology and waste management). A total of 39 start-ups and agripreneurship were recommended for grant of INR 4.58 crores (CCS NIAM).

✚ **IARI PUSA** has the right name in agriculture research and also facilitating Agri start-ups. It has an excellent portfolio that includes 120+ start-up incubated, 50+ start-up grant, 60+ grants in Aid and 3000+ idea evaluated, and 25% co-founded by women. It has delivered services in the name of programs like ARISE, UPJA, SAMARTH and MAITRI. Incubated start-ups by IARI have been serving towards natural resource management, Agri clinic, sustainable agriculture, farm mechanization, Agri biotech and agriculture information & education (IARI).

✚ **UAS Dharwad** is dedicated towards its objectives of creation of employment opportunities in rural areas. To promote technology attainments, Commercial technology transfer and agriculture extension education UAS is contributing as



knowledge partner with RKVY RAFTAAR. Its portfolio includes more than 25+ start-up events, 73+ start-ups incubated and 32+ start-ups funded (UAS).

The entire knowledge partners are helping with their expertise throughout India. Furthermore, agriculture ecosystem has to shift strategically to maintain competitiveness. Adding into this under the banner of start-up India "AgInvest 2020" had helped more than 150 start-ups with the help of 50+ investors. AgInvest 2020 had focused on the food supply chain, farm to market, Agri Fintech, water tech, grading and quality, soil health and many more areas.

There are more than 450 Indian Agri start-ups in the ecosystem. These start-ups have come up with several opportunities in agriculture. During 2019-20 agritech start-ups were trending around truly make in India, supply chain efficiency and raising funds to expand globally. With aim start-ups, it has raised USD 248 mn funding till 2019 (NASSCOM, 2019). **Agri start-ups are growing in an environment without scarcity in India and their area to interest with funding & operations are the following:**

Area	Operation	Start-ups	Funding (approximate)
Market linkage	Improve supply chain	Ninjacart, crofarm, farm taaza, eco zen, agricx, our food, gobasco, farmlink, way-cool, agrowave	\$168 mn
Digital agriculture	Driving transparency, traceability and real-time access to information	Cropin, agnext, credible, fasa, krishihub, satsure, Kisan raja, aibono, Kisan hub, my crop, yuktix, intello labs	\$11 mn
Better access to inputs	Quality inputs doorstep delivery	Agrostar, gramophone, dehaat, bighaat,	\$30 mn
Farming as a service	Making service affordable to small and marginal farmers	Gold farm, EMB, oxen, khethinext, agribolo, trringo	\$13 mn

Financing	Quick loan facility	Jai Kisan, farmart, samunnati, gramcover	\$2.5 mn
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Source: NASSCOM's Report 2019 on Emerging Trends

In general, the Indian agri-tech start-up sector has enormous untapped potential. Agritech seems to have reached that inflexion point where it gained significant momentum among venture capitalists and government grants. The transparency and operational efficiencies being introduced and implemented are transforming India's agricultural landscape.

India's Government indicates a very high priority to the agriculture sector to double farmers' income and get profitable GDP growth. It also helps to continue youth interest in agriculture and its' allied sectors and tremendous employment opportunities.

Challenges & Problems in Agri/ Opportunities for start-ups

- 1. Insufficient supply chain:** The availability of resources like seed, chemicals, distribution depends on the efficient supply chain. So insufficient supply chain is a big challenge for start-ups.
- 2. Middleman and agents:** The farmer needs are guarded by a middleman who owns the fragmented supply. Organized retailers are estimated to get 20% of their produce directly from farmers and produce get from mandis. However, mandis are not an ideal market for farmers; traders require a license to operate in mandi.
- 3. Lack of financing:** Domestic subsidies and investment in policies hardly ever reach the farmers – end user.
- 4. Inadequate irrigation:** Most of the region in India still depends on rainfall for water. Secondly groundwater level is going down from the 1000 feet average depth per year.
- 5. Farm size vs Productivity:** Indian farms are uneven and small as 70% of farms have less than 1 hectare consequential in notably low farm yields.
- 6. Rigid old models:** As the previous models are too rigid, it is not easy to break and generate new business. That is the big reason for the rejection of funding for Agri start-ups have been the business model.
- 7. Lack of subject matter experts or mentors:** The problem is that not many experts are available in this space. There is the requirement of educational support for the upcoming generation in the field.



- 8. Climate change:** It is a crucial factor that harms the agricultural sector. The agricultural sector is susceptible to changing weather and climatic condition. So there should be a quick adoption of technology to bear these unavoidable changes.

Government Initiatives

Start-up India

Start-up India is a lead ship initiative by Government of India. It had been launched by Prime Minister of India, Sh. Narendra Modi throughout his speech on 15 August 2015 from Red Fort, New Delhi. Through this initiative, the Government's objective was to empower the start-ups of different people to boost entrepreneurship and economic growth and give rise to employment.

The action map of start-up India is focusing mainly on three areas:

1. Simplification and handholding
2. Funding support and incentives
3. Industry-Academic Partnership And Incubation

Start-up India encourages people who can innovate and start to their own business by providing technical and financial assistance at multiple levels.

Schemes initiated for Agri start-ups

The Govt. of India, it has given a strong thrust on this sector to provide the farmers' financial and technical assistance to their innovative ideas and various start-ups. The Government, through these schemes, aims to delegate start-ups through innovation.

National Mission for Sustainable Agriculture

National Mission for Sustainable Agriculture was initiated to improve agricultural productivity, especially rain fed areas giving attention to integrated farming, water use efficiency, soil health management and resource conservation.

The spotlight of NMSA will be to impart the optimum utilization of commons' resources, by the way, community-based approach. The critical point means of NMSA are 'water use efficiency', 'livelihood diversification', 'nutrient management', and the adoption of sustainable development strategy by shifting towards environment-friendly strategies, conservation of natural resources, and integrated farming.

Objectives of NMSA:

- To optimize the water resources through efficient water conservation measures

- To opt the soil health management practices and performs tests to know about macro and micronutrients.
- To boost agriculture production through a sustainable and integrated farming system.

Venture Capital Scheme for Agribusiness Development

Venture capital scheme provides venture capital assistance without interest on loan to meet the short requirement for implementing a project. Venture capital assistance is provided by Small Farmers Agribusiness Consortium (SFAC).

Objectives:

- To provide financial assistance for setting agribusiness projects results in the availability of good market to the producer for increasing the rural income.
- To provide training visit of entrepreneurs for setting agribusiness venture.
- To build up the connection of agribusiness project with the producer.

The schedule for the fee payable to consultants under Venture Capital Assistance Scheme for Agribusiness Development is summarized below:

Category-I: (Project size between `10.00 lakh to `25.00 lakh)	Total fee: 25000
Category-II: (Project size above `25.00 lakh and up to ` 1.00 Crore)	Total fee: 50000
Category-III: (Project size above `1.00 Crore and up to `3.00 Crore)	Total fee: 75000
Category-IV: (Project size above `3.00 Crore and up to `5.00 Crore)	Total fee: 100000

Terms of payment of all Categories: The fee will be paid to empanelled consultants in three stages:

- 20% after submission of DPR and other documents to the bank.
- 40% after sanction of term loan by Notified Financial Institution with the provision of VCA.
- 40% after sanction and disbursement of VCA by SFAC.

Micro-irrigation fund

Micro-irrigation fund has been operational zed in NABARD with a fund of Rs. 5000 crore from 2019-20. Micro-irrigation aims to enhance water use efficiency in agriculture by promoting various technological interventions life drip and sprinkler irrigation system and encouraging the farmers to use water conservation technologies.

The release of the fund under this scheme was Rs. 1094.90 crores on 31 October 2020. It can help the state governments enlarge micro irrigation to 12.565 lakh ha (NABARD). State-wise cumulative loan sanctioned as on 31 October 2020:-

Sr. no	Name of State	Loan sanctioned
1.	Ander Pardesh	616.13
2.	Gujrat	764.13
3.	Tamilnadu	1357.93
4.	Haryana	790.94
5.	West Bengal	276.55
	Total	3805.68

Source: NABARD

Atal Incubation Centre

Atal Innovation Mission (AIM) supports establishing the new Atal Incubation Centre that helps a start-up become a sustainable business enterprise (Atal Innovation Mission, 2020).

AIM supports to their incubate start-ups by providing infrastructure facilities, operation facilities and financial assistance. Furthermore, the AICS are sector-specific like in the manufacture, agriculture, water sanitation, education, and health to promote high-tech innovation.

Financial assistance:

AIMS provide the financial assistance up to Rs. 10 crores for a maximum of five years to cover the investment and operational expenditure for the establishments of AIC.

Prarambh:

The Prarambh – Startup India international summit is being organized by Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry, Government of India on January 15-16, 2021. The Prarambh initiative is to bring together industry, investors, start-ups and stakeholders from across the world (Prarambh. 2021).

Objectives:

- Encourage the youth for innovation and entrepreneurship.
- To exchange the knowledge for nurturing start-up ecosystem.
- To provide easy access for start-ups business and enterprise.



- To mobilize the capital of domestic as well as global capital into start-ups.

Gramin Bhandaran Yojna

This scheme started in 2001-02 is a central operated scheme under the National Bank for Agriculture and Rural Development (NABARD). Gramin Bhandaran Yojna is a capital investment subsidy-based scheme that helps the farmers construct warehouses in rural areas to store their agriculture produce. Farmers and agricultural organizations are the beneficiaries of this scheme. The subsidy provided to farmers, agricultural graduates and cooperative organizations is of 2.25 crores, and the Government has fixed 25%. Under this scheme for SC/ST 33% subsidy, i.e. up to 3 crores is provided to farmers living in hilly and rugged areas.

Opportunities for Agri-tech:

- 1. Resource maximization:** Reduction in the usage of water, fertilizer, pesticide and other resources in agriculture is a great business opportunity as 80% of the freshwater used in agriculture. (NAASCOM-Agritech in India: Emerging Trends in 2019).
- 2. Processing and export:** India food processing industry is one of the largest industry in the country. It ranks 5th in terms of production, consumption and export. Flowing and traceability can improve farmer income and export.
- 3. Streamlining supply chain:** There is Rs 92, 651/- crore losses in post-harvest per year to Indian farmers. Increasing the demand for cold chains, warehouses, and significant supply chain can increase the farmer income.
- 4. IOT for farmers:** Smart farming in agricultural business, including concepts like data collection, high-precision crop control, and automated farming techniques will remove inadequacies and strengthen output. Information on crop yields, rainfall patterns, pest infestation and soil nutrition, can be used to advance farming techniques over time.
- 5. Employment rationalization:** As 50% of people are engaged with India's agriculture sector, they still contribute only 16% to GDP. As a result, it allows farm mechanization and collection will rationalize and beneficially reallocate the workforce.
- 6. Fintech for Farmers:** As the farm income is mostly in cash, it will be an opportunity for Fintech start-ups to digitize payments for farmers through payment gateways linked to their accounts.

**Conclusion:**

Indian agriculture-based start-ups are taking up challenges to transform this sector into a technology-driven and smart sector. And, to make this happen telecom sector has played an important role. The easy and cost-effective Availability of the internet to farmers has become updated and tech friendly that can access market information about every aspect of agriculture at the right time whenever it is required. Looking forward GOI plans to support Agri start-ups to boost up agriculture revenue moreover it will help farmers to become agripreneurs and to provide valuable opportunities to the existing agripreneurs to expand their business. Start-up India an innovative approach that covers various central and state schemes to provide technical know-how and financial assistance to agripreneurs. That will help not only the whole economy but also every individual because through technology+startup agriculture will explore new opportunities for growth and employment. As per contemporary conditions, it becomes a great challenge for the advancement of agriculture through start-ups, and to conquer these challenges certain opportunities need to find out?