

Received : 16.07.2022 | Accepted : 18.09.2022 | Online published : 01.10.2022

https://doi.org/10.54986/irjee/2022/oct_dec/128-133I
R
J
ESOCIETY OF
EXTENSION
EDUCATION

RESEARCH ARTICLE

Status and Prospects of Agri Start-Ups in Punjab and Telangana States of India

Naresh Kumar B¹, Rupinder Kaur² and Devinder Tiwari³

1. Ph.D. Scholar,
2. Prof.,
3. Asstt. Prof., KVK Samrala,
Punjab Agricultural University,
Ludhiana, Punjab, India

Corresponding author e-mail:
naresh-ee@pau.edu

ABSTRACT

Entrepreneurship is key to the introduction of new technology, innovations and overall economic changes in society. The present study was designed to study the status and prospects of agri start-ups in Punjab and Telangana state. A sample size of 20 start-ups, 10 start-ups from each state, using simple random sampling was selected for this study. Data for the study was collected with help of the interview schedule. The findings of the study revealed a strong desire to do something independent was ranked 1st. Agripreneurs of Punjab and Telangana had a medium awareness about start-ups schemes. All the agripreneurs of Punjab and Telangana had knowledge about RKVY RAFTAAR schemes and they were willing to expand their business in future. Agripreneurs want to construct storage facilities in coming future. All the agripreneurs wanted to invest their profit margins further in business.

Key words: Status; Prospects; Agripreneurs; Start-ups; Awareness; Profit margin.

Start-ups in India as in many other parts of the world, have received increased attention in recent years. Their numbers are on the rise and they are now being widely recognised as important engines for growth and jobs generation. Through innovation and scalable technology, start-ups can generate impactful solutions and thereby act as vehicles for socio-economic development and transformation. The Indian start-up ecosystem has evolved dynamically over the last two decades. Some start-ups were founded in the 2000s, but the ecosystem was still immature as only a few investors were active and the number of support organisations such as incubators and accelerators was limited. Some successful exits occurred in the late 2000s and in the last ten years, the number of start-ups increased fast and more support has become available in all dimensions. Bangalore has emerged as India's primary start-up hub, but significant founding activity is also taking place in Mumbai and the National Capital Region (NCR), as well as some smaller cities (Sabrina, 2019).

Entrepreneurship is key to the introduction of new technology, innovations and overall economic changes in society. There are several examples around

the world of how large firms have evolved from their early roots as a start-up with the goal of bringing in jobs and revolution (Singh and Pravesh, 2017). In the last few years, major economies have realised the value of promoting agripreneurship because this one allows for significant growth by addressing a societal need (Uplaonkar & Biradar, 2015). The government has implemented various initiatives to encourage these agripreneurs such as the Make in India and Start-up India initiatives. There are distinctive kinds of entrepreneurship based on the industry such as automobiles, software, tourism, food processing, textiles, consulting and as numerous other types of businesses as we can think of (Singh & Pravesh, 2017). The biggest issue these agripreneurs confront at the time of inception is obtaining capital for their initiative as there are numerous hurdles in convincing funding agencies to approve the proposal and begin funding. However, numerous schemes exist for start-ups promotion, they are not adequately implemented causing them to confront initial funding issues (Verma et al, 2018). However, as their business grows, they will have numerous options to expand and become

global. Globalization has given them tremendous opportunities by allowing them to trade ideas, innovate and use technology (Anand and Raj, 2019; Singh and Pravesh, 2017).

Agriculture is in a period of transition all over the world. Agriculture is taking on a new shape in this ever-changing environment, increasing its reach beyond agricultural production and animal husbandry for the rural population's livelihood (Verma et al 2019). Value addition, diversification, high-tech agriculture, precision farming, agripreneurship, organic farming, global marketing and other redefining agricultural activities are increasingly getting popular (Reddy & Krishna, 2018). The agri-tech industry is an ever-growing industry with a lot of optimism to guide Indian agriculture and eventually increase farmers' incomes. According to NASSCOM, India has 450 Agri-tech start-ups, with the number increasing at a rate of 25% each year. Whereas the global number is 3100+. According to reports by NASSCOM, every 9th Agri tech start-ups in the world is from India. Despite the fact that very states conscious of the compulsion of Agritech start-ups for agriculture to flourish, several have created start-up network centres. Karnataka and Maharashtra collectively reports more than half of all Agritech start-ups throughout the last five years in the country (Ashwini, 2021). Even though Gujarat has an insignificant number of Agritech start-ups, it is the outstanding performing state in the Indian Agritech start-up ecosystem hub, in accordance with the *State Start-ups Ranking Report 2020* circulated by the "Department of Industrial Policy & Promotion (DIPP)" (NASSCOM Report, 2021).

Keeping in mind, the present study entitled, "Status of the Agri start-ups in Punjab and Telangana states of India" was conducted with the following objectives.

- To study the status and prospects of Agri start-ups in Punjab and Telangana states.
- To conduct case studies of selected Agri start-ups in Punjab and Telangana states.
- To identify the problems faced by the Agri entrepreneurs and suggestions to promote Agri start-ups.

METHODOLOGY

The study was conducted in Punjab and Telangana states of India. Descriptive research design and case study method was used in the present study. A list of Agri start-ups were prepared based on their working

collaboration with ICAR- Research Institutes, AGRI UDAAN, Punjab Agri Business Incubator (PABI), Agrihub (PJ TSAU), National Institute of Agricultural Extension Management (MANAGE), T-Hub, Agri-Tech Start-up Accelerator CIE, Hyderabad, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and ICAR- NAARM a-IDEA (Association for Innovation Development of Entrepreneurship in Agriculture). The next stage was to locate various Agritech start-ups in the Punjab and Telangana states. A sample size of 20 agri tech start-ups, 10 agri tech start-ups from each state, using simple random sampling was selected for this study. The primary data was collected through personal interview method with the help of pre-tested interview schedule, which was prepared on the basis of objectives of investigation and variables. The interview schedule was thoroughly discussed with the member of the advisory committee and their suggestions were incorporated. Case studies of 20 agri start-ups were documented for the study. The statistical tests and procedures were used for analysing the data with the help of statistical tools like mean, Standard deviation, frequency, percentage, range and Garrett ranking were used for the analysis of data. Garrett ranking was used to assess the factors that lead the agripreneurs to start their own business. The formula was used to transform the respondents' orders of merit into a ranking. Garrett's ranking technique was utilised to determine the most important factor influencing the response. According to this method, respondents were asked to rate all elements and the results of that ranking were then transformed into score values using the following formula (Garrett 1960):

$$\text{Per cent position} = 100 (R_{ij} - 0.5) / N_j$$

Where,

R_{ij} = Rank given for the i th statement by j th respondents

N_j = Number of statements ranked by j th respondents

With the help of Garrett's Table, the percent position estimated is converted into scores. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor.

RESULTS AND DISCUSSION

Status of the agri start-ups:

Factors that lead agripreneurs to start their own business : The Table 1 shows the preferences and ranking by the agripreneurs, the factors lead them to

Table 1. Preference and ranking of statements by the agripreneurs factors that lead them to start their own business

Statement	Punjab (rank order) (n=10)								Telangana (rank order) (n=10)							
	I	II	III	IV	V	VI	VII	VIII	I	II	III	IV	V	VI	VII	VIII
Strong desire to do something independent in life.	7	-	1	1	1	-	-	-	8	-	-	1	1	-	-	-
High income in business	-	-	1	2	6	1	-	-	-	-	-	3	2	5	-	-
Dissatisfied from earlier job	1	-	-	-	-	-	7	2	-	1	1	1	6	-	1	-
Utilizing free time	2	-	1	6	1	-	-	-	1	1	2	6	-	-	-	-
Self-satisfaction	1	7	1	1	-	-	-	-	2	8	-	-	-	-	-	-
Higher profit margins	-	-	-	1	2	6	1	-	-	-	-	-	3	1	6	-
To get fame like other successful entrepreneurs	1	1	8	-	-	-	-	-	1	1	7	1	-	-	-	-
Supplement family income	-	-	-	-	-	-	3	7	-	-	1	1	-	2	-	6

Table 2. Per cent position and Garret value (N=10)

100 (Rij- 0.5) /Nj	Calculated Value	Garrett Value
100 (1 – 0.5)/ 8	6.25	80
100 (2 – 0.5)/ 8	18.75	68
100 (3 – 0.5)/ 8	31.25	60
100 (4 – 0.5)/ 8	43.75	53
100 (5 – 0.5)/ 8	56.25	47
100 (6 – 0.5)/ 8	68.75	41
100 (7 – 0.5)/ 8	81.25	32
100 (8 – 0.5)/ 8	93.75	21

start their own business. Seven agripreneurs of Punjab and eight agripreneurs of Telangana ranked strong desire to do something independent in life first rank and supplement family income ranked as last.

Calculation of Garret Value and Ranking : The calculation of Garrett value and ranking of statements by the Agripreneurs given in the Table 2.

All the factors ranked by agripreneurs of Punjab and Telangana under the study are given in Table 3. The ranks were obtained with help of garret ranking method. In Punjab, a strong desire to do something independent in life got the 1st rank followed by self-satisfaction, utilizing free time, high income in business, higher profit margins, dissatisfied from earlier job, to get fame like other successful entrepreneurs and supplement family income ranked 2nd, 3rd, 4th, 5th, 6th, 7th and 8th respectively.

In Telanagna, strong desire to do something independent in life got the 1st rank followed by self-satisfaction, to get fame like other successful entrepreneurs, utilizing free time, dissatisfied from earlier job, high income in business, higher profit margins and supplement family income ranked 2nd, 3rd, 4th, 5th, 6th, 7th and 8th respectively. No studies were found in line with present study.

Table 3. Mean score (MS) and Garret ranking (GR) of Statements by the Agripreneurs to start their own business

Statements	Punjab (n=10)		Telangana (n=10)	
	MS	GR	MS	GR
Strong desire to do something independent in life.	90.00	I	92.50	I
High income in business	61.12	IV	57.25	VI
Dissatisfied from earlier job	43.25	VI	61.87	V
Utilizing free time	73.12	III	73.25	IV
Self-satisfaction	83.62	II	88.00	II
Higher profit margins	53.12	V	46.75	VII
To get fame like other successful entrepreneurs	39.50	VII	77.62	III
Supplement family income	30.37	VIII	40.12	VIII

Awareness about start-up schemes : The results presented in the Table 4 show that half (50.00%) of the agripreneurs of Punjab had medium awareness about start-ups schemes followed by high (30.00%) and low (20.00%) level of awareness about start-ups schemes. Most (60.00%) of the agripreneurs of Telangana had medium level of awareness about start-up schemes followed by high (20.00%) and low (10.00%) level of awareness about start-up schemes.

From the Table 5 it is clear that all the agripreneurs under study in both Punjab and Telangana were aware of the RKVY-RAFTAAR scheme. All the agripreneurs under study in Telangana and 90.00 per cent of the agripreneurs in Punjab were aware of the NABARD-Dairy Entrepreneurship Development Scheme. A little more than three-fourth (80.00%) of the agripreneurs of both Punjab and Telangana were aware of the Small Industries Development Bank of India (SIDBI) scheme, Start-up India and Make in India schemes. Most (70.00%) of the agripreneurs in Punjab and 80.00

per cent of the agripreneurs Telangana were aware of Pradhan Mantri Mudra Yojana (MUDRA) scheme. Most (60.00%) of the agripreneurs in Telangana and only 30.00 per cent of the agripreneurs in Punjab were aware of Venture Capital Assistance Scheme. Forty per cent and thirty per cent of the agripreneurs

of both Telangana and Punjab were aware of SIDBI's Samridhi Fund. Whereas agripreneurs of Punjab don't aware of Swarojgar Credit Scheme but 40.00 per cent of the agripreneurs in Telangana were aware of Swarojgar Credit Scheme.

Most of the agripreneurs were aware of the RKVY-RAFTAAR scheme and NABARD's Dairy Entrepreneurship Development Scheme. The reason for this might be due to the most of the agripreneurs had undergone training at the incubators under RKVY- RAFTAAR Scheme and they have submitted their start-up proposal to incubators. The incubators process the proposals in collaboration with NABARD.

Prospects of the Agri start-ups :

Willingness of agripreneurs to expand their business in future : It is clear from the data in Table 6 that large majority (90.00%) of agripreneurs of Punjab were willing to expand their business in future to different districts of Punjab whereas in Telangana all the Agri start-ups under study were willing to expand their business in future. This may be due to the reason that all the start-ups under study were with 2-5 years in their operation and the start-ups were at the idea and seed stage. They have huge scope to expand their business in future. They want to increase their annual turnover and profit margins by expanding their bossiness and increasing the market demand for their products.

Willingness of the agripreneurs to have enough resources for the further expansion of business: From the above Table 6 it is clear that 80.00 percent of agripreneurs of Punjab and 70.00 per cent of agripreneurs of Telangana were willing because they have enough resources for further expansion of business.

Table 4. Distribution of agripreneurs according to their overall awareness about start-up schemes

Awareness about start-up schemes	Punjab (n=10)	Telangana (n=10)
	No. (%)	No. (%)
Low	2 (20.00)	1(10.00)
Medium	5 (50.00)	6 (60.00)
High	3 (30.00)	2 (20.00)
	4.7±1.5	6±1.8

Table 5. Distribution of agripreneurs according to their awareness about start-up schemes

Awareness about start-up schemes	Punjab (n=10)	Telangana (n=10)
	No.(%)	No.(%)
Venture Capital Assistance Scheme	3 (30.00)	6 (60.00)
Small Industries Development Bank of India (SIDBI)	8 (80.00)	8 (80.00)
Pradhan Mantri Mudra Yojana (MUDRA)	7 (70.00)	8 (80.00)
Dairy Entrepreneurship Development Scheme (NABARD)	9 (90.00)	10 (100.00)
Stand up India, Make in India	8 (80.00)	8 (80.00)
Swarojgar Credit Scheme	-	4 (40.00)
RKVY-RAFTAAR	10 (100.0)	10 (100.0)
Samridhi Fund (SIDBI)	3 (30.00)	4 (40.00)

Table 6. Distribution of agri start-ups according to their Prospects

Statements	Punjab No.(%)	Telangana No.(%)
Willingness of agripreneurs to expand their business in future	09 (90.00)	10 (100.0)
Willingness of the agripreneurs to have enough resources for the further expansion of business	08 (80.00)	07 (70.00)
Willingness of agripreneurs regarding construct of storage facility in future	08 (80.00)	07 (70.00)
Willingness of agripreneurs regarding availability of labour in future for start-up activities.	04 (40.00)	05 (50.00)
Willingness of agripreneurs regarding quality control measures.	10 (100.0)	10 (100.0)
Willingness of agripreneurs regarding to adopt new technology in coming future	10 (100.0)	10 (100.0)
Willingness of agripreneurs regarding to hire a professional manager for business management	08 (80.00)	07 (70.00)
Willingness of agripreneurs to adopt any technology or measure to protect environment	09 (90.00)	10 (100.0)
Willingness of agripreneurs regarding to increase their profit margins in future	10 (100.0)	10 (100.0)
Willingness of agripreneurs to attend professional training for development of start-up.	10 (100.0)	08 (80.00)
Willingness of agripreneurs ability to withstand market competition	09(90.00)	10 (100.0)

Willingness of agripreneurs regarding construct of storage facility in future : From the Table 6 it is evident that majority of the agripreneurs of Punjab (80.00%) and Telangana (70.00%) were willing to construct a storage facility. This may be due to the reason that most of the start-ups were in the food processing sector which essentially needs cold storage facility.

Willingness of agripreneurs regarding availability of labour force in future for start-up activities : From the Table 6 it is clear that the two-fifth (40.00%) of the agripreneurs of Punjab under study were willing to avail labour in future for the start-up activities whereas half (50.00%) of the agripreneurs of Telangana were willing to avail labour in future for the start-up activities. This may be due to the reason that most of the labour migrating from the rural areas to metropolitan cities resulting in increase in labour charges. Agripreneurs opinion was that people work for seven to eight months and once they learned the skills, they left the job to start their own business. This creates a scarcity of the skilled labour.

Willingness of agripreneurs regarding quality control measures : According to the data all of the agripreneurs under study in Punjab and Telangana were willing to follow quality control measures in the future. This may be due to the reason that quality products are always in demand in the market.

Willingness of agripreneurs regarding to adopt new technology in coming future : According to the data, a all of the agripreneurs in Punjab and Telangana were willing to adopt new technology in coming future. This may be due to the reason that most of the start-ups are still operating with out-dated technologies. The agripreneurs opinion is that there is tremendous need for advanced technologies to be inculcated into start-up operations to reduce labour costs and increase the scale of production.

Willingness of agripreneurs regarding to hire a professional manager for business management in future : From the Table 6 it is clear that, the majority (80.00%) of agripreneurs of Punjab under study were willing to hire professional manager to manage their business in future and majority (70.00%) of agripreneurs of Telangana were willing to hire manager to manage their business in future.

Willingness of agripreneurs to adopt any technology or measure to protect environment : From the Table 6 it is clear that 90.00 per cent agripreneurs of Punjab and cent per cent agripreneurs of Telangana were

willing to adopt new technologies or measures to protect environment. The reason may be due to the fact that most of the agripreneurs have knowledge about climate change and they want to contribute towards environmental protection.

Willingness of agripreneurs regarding to increase their profit margins in future : According to the obtained data, a hundred per cent of agripreneurs in Punjab and Telangana were willing to increase their profit margins in coming future. This may be due to the reason that all agripreneurs under this study were willing to expand their business.

Willingness of agripreneurs to attend professional training for further development of start-up : From data given in the Table 6 it is clear that, a hundred per cent of agripreneurs of Punjab and 80.00 per cent of agripreneurs of Telangana were willing to attend professional training for development of start-up.

Willingness of agripreneurs ability to withstand market competition : From data given in the Table 6 it is clear that, a hundred per cent of agripreneurs of Punjab and 80.00 per cent of agripreneurs of Telangana were willing to withstand market competition in future.

Investment of profit margins : From the Table 7 it is clear that the 100.00 per cent of agripreneurs of Punjab always wanted to invest their profit margins for further expansion of their business. 40.00 per cent of agripreneurs responded 'Sometimes' and 60.00 per cent of agripreneurs responded 'never' to invest profit margin for big investments i.e. buying a house, car etc. Half (50.00%) of the agripreneurs always wanted to invest their profit margins for children's education followed by sometimes (20.00%) and 'never' (30.00%). Most (80.00%) of the agripreneurs sometimes saves their profit margins followed by always (20.00%). 90.00 of the agripreneurs sometimes invest their profit margin purchasing for self-followed by always (10.00%). Most (70.00%) of the agripreneurs not investing in any kind of mutual funds and shares followed by sometimes (20.00%) and always (10.00%).

The Table 7 shows that 100.00 per cent of agripreneurs of Telangana always wanted to invest their profit margins for further expansion of their business. Most (60.00%) of the agripreneurs never investing in buying big house, car etc. followed by sometimes (40.00%). Most (60.00%) of the agripreneurs always wanted to save for children's education followed by sometimes (40.00%). Majority (70.00%) of the agripreneurs sometimes save profits followed by always

Table 7. Distribution of agripreneurs according to investment of profit margins (N=10)

Statement	Always		Sometimes		Never	
	Punjab No.(%)	Telangana No.(%)	Punjab No.(%)	Telangana No.(%)	Punjab No.(%)	Telangana No.(%)
Further in business	10 (100.00)	10 (100.0)	-	-	-	-
Big investment i.e. buying house, car etc.	-	-	04 (40.00)	04 (40.00)	06 (60.00)	06 (60.00)
Children's education	05 (50.00)	06 (60.00)	02 (20.00)	04(40.00)	03(30.00)	-
Savings	02 (20.00)	30 (30.00)	08 (80.00)	07 (70.00)	-	-
Purchase for your self	01 (10.00)	01 (10.00)	09 (90.00)	09 (90.00)	-	-
Invest in any kind of shares	01 (10.00)	03 (30.00)	02 (20.00)	01 (10.00)	07 (70.00)	05 (50.00)

(30.00%). most (90.00%) of the agripreneurs sometimes purchase for self-followed by always (10.00%). Half (50.00%) of the respondents never investing profit margin in any kind of mutual funds or shares followed by always (30.00%) and sometimes (10.00%).

This is maybe due to the reason that majority of agripreneurs wanted to expand their business and already owned house, save children's education and are not interested to invest in any kind of mutual funds or shares.

CONCLUSION

The study revealed agripreneurs of Punjab and Telangana had a strong desire to do something independent was ranked 1st. Majority of the agripreneurs had medium awareness about start-up schemes. All the agripreneurs of Punjab and Telangana had knowledge about RKVY- RAFTAAR schemes and they were willing to expand their business in future. Agripreneurs were always wanted to invest their profit margins for further expansion of their business. Half of the agripreneurs always saving their profit margins for children education. Agripreneurs sometimes invest their profit margins for purchase for self. Majority of agripreneurs were not investing in mutual funds and shares.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

REFERENCES

- Anand, A. and Raj, S. (2019). Agritech startups: the ray of hope in Indian agriculture. Discussion Paper 10, MANAGE-Centre for Agricultural Extension Innovations, Reforms and Agripreneurship (CAEIRA), Hyderabad.
- Ashwini. (2021). Agriculture start-ups in India. <https://startuptalky.com/agriculture-startups-in-india/.pdf>
- Garrett, H. E. (1960). Statistics in psychology and education New York. Longmans, 232.
- NASSCOM report (2021).<https://community.nasscom.in/>
- Reddy, D. and Krishna, V. (2018). Improving farmers income by promoting agripreneurship on basis of shared economy principle. *Intl. J. Pure and Applied Math.*, **118** (18) : 4729-4738.
- Singh, S.K. and Pravesh, R. (2017). Entrepreneurship development in India: Opportunities and Challenges. *Splint Intel. J. Professional*, **4** (3) : 75-81.
- Sabrina, K. (2019). The Indian start-up ecosystem: Drivers, challenges and pillars of support", ORF Occasional Paper No. 210, September 2019, Observer Research Foundation.
- Uplaonkar, S. S. and Biradar, S. S. (2015). Development of agriculture in India through agripreneurs. *Intl. J. Applied Res.*, **1**: 1063-66.
- Verma, R.K.; Sahoo, A.K. and Rakshit, S. (2018). Opportunities in agripreneurship in India : Need, challenges and future prospects. *Rashtriya Krishi*, **13** (1) : 69-72.

