

Exploring the Entrepreneurial Readiness of Indian Agri – Graduates: Pathway to the Enhanced Entrepreneurial Ecosystem

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ABSTRACT

The ultimate aim of education in developing countries is to earn a livelihood. Agricultural Sciences is taught in India in more than 74 agricultural universities. This paper examines entrepreneurial readiness and aims to understand the various factors underlying the entrepreneurial readiness of agricultural students. Data from 422 students from 9 State Agricultural Universities (SAUs) in India formed the study sample. A self-reporting questionnaire was used to measure entrepreneurial readiness based on entrepreneurial intention, perceived ability, perceived attractiveness, entrepreneurial learning orientation, and passion for work. The correlation test revealed a positive correlation among all the variables, with correlation values ranging from 0.40 to 0.68. Most students (74.40%) had a medium level of entrepreneurial readiness. They were ambitious, willing to learn, and had the creativity, leadership, courage, and risk-bearing abilities required to be entrepreneurs. Regression analysis revealed that variables like gender, exposure to entrepreneurial training/workshops/seminars, and having an entrepreneur in the family are significant factors in entrepreneurial readiness. The findings help the agricultural universities' faculty and capacity building and training institutes design the contents of the entrepreneurship education programmes for agri-graduates to make them job providers rather than job seekers, thus contributing to an enhanced entrepreneurial ecosystem in agricultural universities.

Keywords: Agricultural students, Entrepreneurship education.

INTRODUCTION

As early as 1938, John Dewey considered the father of progressive learning, advocated social learning and defined the purpose of education as preparing today's students for the upcoming responsibilities using relevant knowledge and skills. Agricultural education experiences new development in the field and is by far one of the best sciences that has direct applications for the welfare of humankind. The fate of agriculture can be changed or driven by agri-graduates, and there is a massive scope for them to be agricultural business visionaries. Although, the workforce availability in the agriculture

sector indicated that more than 12,000 agricultural graduates pass out from the State Agricultural Universities all over India, of which 2,000 find jobs in the private and public sector, leaving a vast number of graduates unemployed (Mahra *et al.* 2015), which creates a depression for jobs in agri-graduates community and a prolonged rise in the agri- economy. Taylor (1996) also states that people go for self-employment for three main reasons: unemployment, earning a living, and gaining independence. When unemployment attains its peak, and there are no jobs with companies to pay, people prefer to be self-employed rather than wasting their time job hunting. The agricultural sector

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suffers from severe underemployment (Raju *et al.*, 2021). In a developing country like India, there is a very thick line between the number of agri-graduates passing out yearly and the job opportunities available in the real-time market. Creating large-scale jobs is required, which is technically a mammoth task for any country's economy (Rathore, 2022). To address youth unemployment, we need to shift youths' efforts from seeking jobs to creating commercial opportunities for themselves, for which integrating entrepreneurship and innovation into education is vital (Matlali, 2021). Entrepreneurship training, youth internship programs, and entrepreneurs' involvement in entrepreneurship policy-making may help youth to become entrepreneurs (Brixiov *et al.*, 2015).

Chigunta (2017) listed three main reasons for youth to become entrepreneurs. They are training support, accessibility to professional organizations, ensuring that youth entrepreneurs are provided with role models, and there is a need for both local and central Government to provide suitable working spaces to these budding entrepreneurs. This will require a deliberate media campaign to raise awareness about the existing youth entrepreneurship support programs.

Lighting up the entrepreneurial spark is one of the prime agendas to curtail the problem of unemployment to some extent. The agricultural education system in India is a unique and vibrant model for agri-graduates where they can catch all the theoretical and practical knowledge related to all the subjects, including entrepreneurship and communication skills courses. Knowing the entrepreneurial readiness of agricultural graduates in the final year of their study will also help to develop a curriculum related to entrepreneurship courses and decide upon developing an entrepreneurial ecosystem in the agricultural universities. With an entrepreneurial education strategy, undergraduate students can enter entrepreneurship as their career option (Iqbal, 2012). A World Bank-funded project

is creating sensitisation programmes among the students on entrepreneurship in Indian Agricultural Universities and trying to attract ready students from all over India to incubation centres to have space and get guidance for further setting up into a big business. However, still, there are fewer expected outcomes as agri-entrepreneurs. Recognizing the role of entrepreneurs in a country's economic growth and development, many programmes like workshops, training, and seminars are carried out to enhance skills related to entrepreneurship among the graduates studying at agricultural universities (Waguey, 2014). Countries have implemented various schemes and programs to allow students to exploit the available business opportunities (Olugbola, 2017). Bank loans and business facilities like Technology Business Incubators (TBIs), entrepreneurship training, and programs influence youths' career choices. There are many opportunities for youths to submit their business proposals to government and private bodies to get their viable business ideas funded. In India, many schemes can help and financially support agriculture students who want to start their businesses. These are Agriclinic/Agribusiness Centers (AC/ABC), Startup India, Agri UDAAN, and Dairy Entrepreneurship Development Plans (DEDC) by the government of India. Many private firms are also involved in providing these entrepreneurial platforms to agri-graduates. These options test the young generation's entrepreneurial readiness (Olugbola, 2017). Despite all efforts, youth participation in activities related to entrepreneurship still needs to be improved in the agriculture sector. The unemployment problem among graduates is common in many countries, including India, which is full of natural resources and possesses a vast scope for agri-preneurial ventures. Many potentials exist within the broad category of entrepreneurship education, which can tap the potential of the large army of human resources in agriculture graduated from the

74 Agricultural Universities to provide jobs rather than seek jobs.

Different factors prevail for entrepreneurship development, and one of the factors is preparation for entrepreneurship, i.e. Entrepreneurial readiness (Potts *et al.*, 2021). The ability and motivation of people to respond to business operations using their expertise are known as entrepreneurial readiness. It is a significant factor in the growth of entrepreneurs in society (Wulandari *et al.*, 2021). Different authors have explored the various aspects or dimensions of entrepreneurial readiness. Formal and informal institutions affect individuals' entrepreneurial readiness (Schillo *et al.* (2016). Factors affecting entrepreneurial readiness might differ across study subjects and countries (Varamäki *et al.*, 2011). Therefore, more and more studies are needed across countries and disciplines (Pouratashi, 2015). Knowing how a practical-oriented subject impacts the students' preparedness to be entrepreneurs is necessary. Several researchers have revealed that one's desire to enter the path of entrepreneurship predicts their actual conduct to be a future entrepreneur (Delmar and Davidson, 2000). Shane *et al.* (2012) stated that the success of a novel startup venture is related to a youth's preparedness to change their intentions into a business outcome. It means the utilization of business opportunities depends on youths' readiness. The likely behaviour of agri-graduates depicts their preparedness for choosing entrepreneurship as their career choice; we need to explore their readiness towards entrepreneurship. Though many venture creation chances are in place in agricultural sciences, only a few graduates can identify them and avail themselves of the opportunity to transform them into gainful outputs. There is a shortage of studies on entrepreneurial readiness and farming students. To successfully take up entrepreneurship by agri-graduates, it is indeed a need to explore the level of entrepreneurial readiness and its

determinants, which would generate valuable insights into the contributing factors associated with the entrepreneurial enthusiasm of agricultural students, so that it is helpful to workout a new strategy by policymakers for attracting and retaining the agri youth into entrepreneurship.

According to Overseas Development Institute (2012), the assessment and utilization of readiness of agricultural graduates towards the creation of new ventures place a country's economy at an edge over the others. So, we conceptualize entrepreneurial readiness from a broader perspective. It is considered the competence and potential of an individual in entrepreneurship, which governs numerous factors. Here, we used five dimensions contributing to agricultural graduates' entrepreneurial readiness in India. Readiness comprises the intentions, learning orientation, perceived ability, passion for work, and perceived attractiveness related to entrepreneurship (Rakicevic *et al.*, 2014). The definitions of these dimensions are shown in Figure 1.

In literature, the entrepreneurial intention is associated with that condition of mind where a wish is to form a new venture (Bae *et al.*, 2014). The entrepreneurial perceived ability aspect is the confidence that one can efficiently carry out the assigned work (Krueger *et al.*, 2000). Entrepreneurial perceived attractiveness is associated with the thought that the career choice of being an entrepreneur will have fascinating results (Krueger *et al.*, 2000). According to Baum *et al.* (2001), people are strongly inclined towards learning orientation have more chances of engaging in 'practical aspects' wherein they tend to imbibe new knowledge via experiences associated with real-life situations. People with an intense learning orientation mostly take up difficult jobs, are knowledge-intensive and may apply their entrepreneurship-related knowledge to address complex matters, considering them personal and professional development opportunities. Based on these discussions, a positive association between the learning

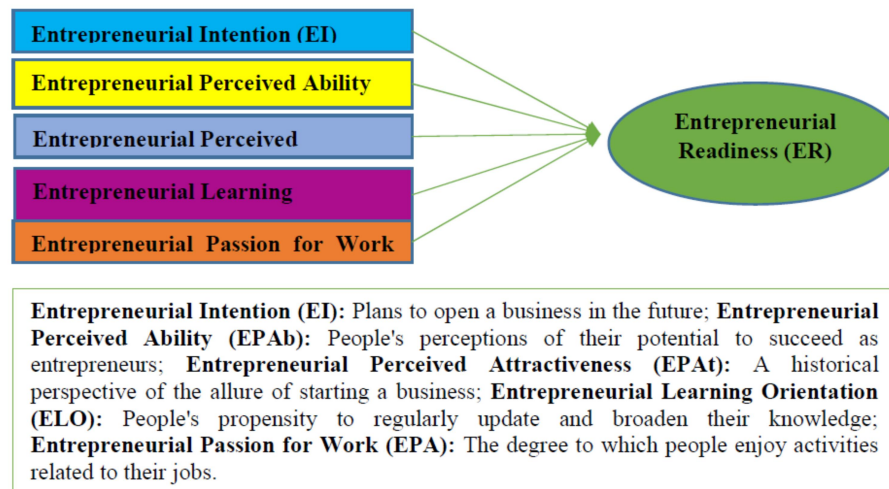


Figure 1. Factors of entrepreneurial readiness.

orientation of students and their perceived ability to succeed in their entrepreneurial ventures is anticipated (De Clercq *et al.*, 2012).

Entrepreneurial passion for work is the degree to which an individual feels happy while engrossed in work-related tasks. It invigorates them to store job-related knowledge and channel their cognitive exertion towards knowledge reclamation as per the job demand (Cardon *et al.*, 2009). Furthermore, individuals with a solid enthusiasm for work have an inner instinct to move ahead to utilize their present knowledge and experience to experience that sense of achievement and satisfaction (Baum and Locke, 2004). These findings lead us to conclude that the more the passion for work, the greater the chances of possessing the perceived ability to become a successful entrepreneur, which would, in turn, enhance the entrepreneurial readiness of an individual (De Clercq *et al.*, 2012).

This study tries to identify the indicators contributing to Entrepreneurial Readiness among the agri-graduates in the context of five dimensions of Entrepreneurial readiness, viz., Entrepreneurial Intention, entrepreneurial perceived ability, Entrepreneurial Perceived attractiveness, Entrepreneurial Learning Orientation, and

Entrepreneurial passion for work. In addition, the study hypothesizes that factors such as age, gender, presence of an entrepreneur in the family, awareness about various government schemes supporting entrepreneurship, and participation in various entrepreneurship awareness programs influence the entrepreneurial readiness of the student respondents.

MATERIALS AND METHODS

Methodology

To analyse the entrepreneurial readiness among the agri-graduates of different State Agricultural Universities (SAUs) across India, a cluster-based sampling technique was used purposively as the respondents were geographically diversified, and the data were collected from November 2019 to March 2020. Among 74 Universities, we chose nine SAUs representing 6 states of India, which were selected conveniently and purposively due to the first author's existing relationship with the faculty members of these universities, which saved time in data collection. The structure of the Undergraduate (UG) degree programme was the same in all universities, with a four-year

study programme in Bachelor of Science (BSc) in Agriculture and allied disciplines and a 5-year study program in the Bachelor of Veterinary Sciences (BVSc) degree program. The sample size of the cluster from nine different universities is mentioned in Table 1.

Data Collection

The data were collected by self-reporting entrepreneurial readiness questionnaire. For a deep insight, the tool further had two structured sections. The first focused on the respondents' basic information, which helped develop an understanding of the profile of the respondents. The second part of the tool consisted of questions on a 5-point Likert scale set with insights from De Clercq *et al.* (2012) and a literature review. This part comprised four sections, each addressing a specific theme: entrepreneurial readiness, personal conditions, skills and experiences, and awareness regarding government schemes and initiatives.

A total of 608 responses were collected initially. After removing duplications and missing values, 422 responses were finally considered for analysis.

Statistical Analysis

We tested the questionnaire's content validity via subject matter experts from

different agricultural universities with research and academic background in agri-preneurship. A reliability analysis using Cronbach's Alpha was carried out for the entrepreneurial readiness Index. The Cronbach alpha value for Entrepreneurial Intention was 0.525, Entrepreneurial Perceived Ability was 0.756, Entrepreneurial Perceived Attractiveness was 0.791, Entrepreneurial Learning Orientation was 0.838, and Entrepreneurial Passion for Work was 0.772. All the values, except Entrepreneurial Intentions, were more than 0.60, indicating that almost all measures met the reliability criteria. Along with Cronbach alpha, the Confirmatory Factor Analysis (CFA) was carried out to check the reliability and validity of the constructs. Harman's single-factor test was used to check common method bias. Data analyses involved descriptive (means, standard deviation, percentages, frequencies) and inferential statistics like correlation and regression. Based on the mean scores obtained, we divided the entrepreneurial readiness of the agri-graduates under study into three levels; low, medium, and high by using the formula given below:

Min < Readiness score < Mean-SD: A = Low entrepreneurial readiness

Mean-SD < Readiness score < Mean+SD: B = Medium entrepreneurial readiness

Mean+SD < Readiness score < Max: C = High entrepreneurial readiness

Table 1. Sample from State Agricultural Universities.

S. No.	University name	Sample size
1.	Agriculture University, Jodhpur, Rajasthan	34
2.	G.B Pant University of Agriculture and Technology, Udhamsingh Nagar, Uttarakhand	55
3.	Maharana Pratap University of Agriculture and Technology, Udaipur, Rajasthan	14
4.	Punjab Agriculture University, Ludhiana, Punjab	87
5.	Rani Lakshmi Bai Central Agricultural University, Jhansi, UP	9
6.	Swami Keshwanand Rajasthan Agricultural University, Bikaner, Rajasthan	32
7.	Tamil Nadu Veterinary and Animal Sciences University, Chennai, Tamil Nadu	29
8.	University of Horticultural Sciences, Bagalkot, Karnataka	77
9.	University Agricultural Sciences, Bangalore, Karnataka	85
10.	Total	422



RESULTS

Demographic Profile

Respondents' average age was 21, a relatively young population with more than half (52.84%) male students. Most respondents (92.41%) were in the IV years of their 4-year BSc. study program. The rest were in V year of 5-year Bachelor of Veterinary Sciences (BVSc.) - the final year

of their degree program. Most students (88.62%) did not have an entrepreneur in their family. However, more than half (55.92%) of the students had taken entrepreneurship courses, and 68.24% had attended entrepreneurship training/workshops/seminars.

Entrepreneurial Readiness of Students

Table 2 reveals that the mean for

Table 2. Descriptive statistics of variables.

S. No.	Statements	Mean	SD
	Entrepreneurial readiness	57.92	14.65
I	Entrepreneurial Intention	11.96	3.27
	1. EI1: Becoming an entrepreneur is my professional goal	2.41	1.03
	2. EI2: All needed efforts will be made by me to start and run my firm	2.18	0.98
	3. EI3: I do like to start my own business	2.45	1.24
	4. EI4: I have never thought about becoming self-employed	2.90	1.29
	5. EI5: I do enjoy the competition	2.03	1.01
II	Entrepreneurial Perceived Ability	12.33	3.95
	1. EPAb1: It's quite feasible for me to start a business of my own	2.26	0.96
	2. EPAb2: I can achieve something that I value	1.86	0.84
	3. EPAb3: I am sure that if I wished to start a business of my own, I would do so	2.20	1.16
	4. EPAb4: I can extend my range of abilities	1.86	0.87
	5. EPAb5: Being self-employed is my ultimate goal	2.12	1.02
	6. EPAb6: I would be my boss	2.04	1.00
III	Entrepreneurial Perceived Attractiveness	8.75	2.97
	1. EPAt1: I am strongly desirous of starting my own business	2.09	0.92
	2. EPAt2: If I become an entrepreneur, I would derive a lot of satisfaction	2.15	0.91
	3. EPAt3: I know the needed tactics to start a firm	2.33	0.99
	4. EPAt4: I have a strong desire to be self-employed. My ultimate wish is to have a business of my own	2.19	0.98
IV	Entrepreneurial Learning Orientation	12.19	4.07
	1. ELO1: To brush up my abilities, I often read articles and books and visit internet sites	2.11	0.89
	2. ELO2: To gain knowledge and develop skills, I often seek opportunities	2.05	0.87
	3. ELO3: Developing my ability to take risks is important	2.04	0.90
	4. ELO4: I relish encountering difficulties by which I can learn novel skills	2.11	0.97
	5. ELO5: Situations demanding enhanced abilities and talents attract my attention	1.97	0.92
	6. ELO6: I like opting for challenging tasks, which makes me learn more	1.91	0.93
V	Entrepreneurial Passion for Work	12.67	3.95
	1. EPW1: Hard work is a means to derive most of my satisfaction in life	1.86	0.86
	2. EPW2: Since I enjoy hard work, I accomplish a lot	2.00	0.90
	3. EPW3: At times when I am not working hard, I wish I could be doing so	2.01	0.90
	4. EPW4: When away from work, I look forward to returning to work	2.09	0.85
	5. EPW5: I am financially prepared to cover household and living expenses without drawing a salary when I will start the business	2.37	1.07
	6. EPW6: I think I can contribute personal funds and family assets as collateral for a business	2.34	1.16

entrepreneurial readiness is 57.92. The descriptive statistics of the five dimensions of entrepreneurial readiness show the values as Entrepreneurial Intention (11.96), Entrepreneurial Perceived Ability (12.33), Entrepreneurial Perceived Attractiveness (8.75), Entrepreneurial Learning Orientation (12.19), and Entrepreneurial Passion for Work (12.67).

Three categories were formed based on mean \pm SD for calculating the entrepreneurial readiness of students. It is clear from the results that most respondents (74.40%) had a medium level of entrepreneurial readiness, followed by 13.03 and 12.55%, who had a

high and low level of entrepreneurial readiness, respectively.

Reliability and Validity Tests

Confirmatory Factor Analysis (CFA) was employed to check the reliability and validity of the constructs. In the initial model, all the variables were included. However, the factor loading for the variable, 'I have never thought about becoming self-employed' (EI4), was 0.065, which is too low and non-significant ($P = 0.466$). Therefore, EI4 was excluded in the final

Table 3. Results from Confirmatory Factor Analysis.

Construct	Variables	Estimate	SE	Z-value	P(> Z)
Entrepreneurial Intention					
	EI1	1	0.751	0.729	
	EI2	1.074	0.069	15.623	<0.01
	EI3	0.725	0.086	8.449	<0.01
	EI5	0.649	0.07	9.311	<0.01
Entrepreneurial Perceived Ability					
	EPAA1	1	0.633	0.661	
	EPAA2	0.76	0.072	10.52	<0.01
	EPAA3	0.769	0.097	7.959	<0.01
	EPAA4	0.755	0.074	10.143	<0.01
	EPAA5	1.172	0.09	12.959	<0.01
	EPAA6	0.869	0.086	10.151	<0.01
Entrepreneurial Perceived Attractiveness					
	EPAT1	1	0.718	0.784	
	EPAT2	0.9	0.059	15.136	<0.01
	EPAT3	0.735	0.067	10.887	<0.01
	EPAT4	1.058	0.063	16.664	<0.01
Entrepreneurial Learning Orientation					
	ELO1	1	0.529	0.596	
	ELO2	1.204	0.104	11.554	<0.01
	ELO3	1.355	0.111	12.167	<0.01
	ELO4	1.068	0.109	9.815	<0.01
	ELO5	1.284	0.111	11.617	<0.01
	ELO6	1.154	0.108	10.694	<0.01
Entrepreneurial Passion for Work					
	EPW1	1	0.562	0.657	
	EPW2	1.076	0.095	11.269	<0.01
	EPW3	0.969	0.094	10.344	<0.01
	EPW4	0.854	0.088	9.717	<0.01
	EPW5	1.046	0.11	9.527	<0.01
	EPW6	1.144	0.12	9.576	<0.01



model in which all the variables were > 0.5 -factor loading and significant ($P < 0.05$). The results from the confirmatory factor analysis are presented in Table 3. The results from CFA confirm the validity and reliability of the constructs. After excluding EI4, the Cronbach alpha value for the construct 'Entrepreneurial Intention' also increased to 0.70. Furthermore, Harman's single-factor test found that the highest amount of variability explained by a factor is 13% ($< 50\%$, the benchmark value), which confirms the absence of common method bias.

Correlation Test

The Pearson correlation test revealed a positive association among all constructs, with correlation values ranging from 0.40 to 0.68 (Figure 2). The highest positive correlation was between Entrepreneurial Perceived Ability and Entrepreneurial Perceived Attractiveness. Similarly, the lowest correlation was reported between Entrepreneurial Perceived Ability and Entrepreneurial Passion for work.

Personal Factors

Personal characteristics of a person concerning entrepreneurship are those personality traits that can assess the intrinsic features of entrepreneurs. Those characteristics remain hidden in one's personality, such as creativity, innovation, risk-bearing ability, problem-solving, and internal locus of control. The students' conditions, like their stamina, stress handling, and financial support, also affect their entrepreneurial readiness. Most of the students reported that they had financial support for agribusiness (Mean = 2.25), followed by a readiness to start agribusiness (2.23) and were ready to work under pressure (2.13) (Table 4).

Skills and Experience

Figure 3 reveals that most respondents (74.40%) were ambitious, willing to learn, creative, and possessed leadership, courage, and risk-bearing abilities. Seventy-four per cent of the respondents were ambitious. However, among individual skills, 30.80, 22.03, 21.56, and 18.95% of the respondents

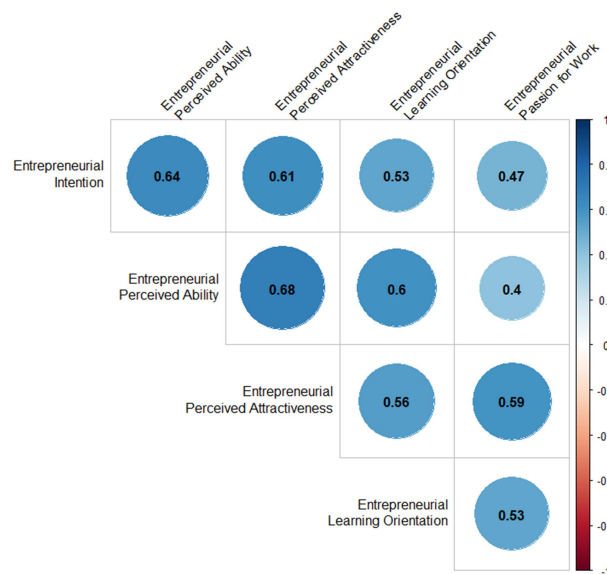


Figure 2. Association between constructs.

Table 4. Personal traits of respondents.

S. No.	Statements	Mean	SD
1.	Having the physical stamina to handle a "self-employed" workload and schedule	2.00	0.91
2.	Ready to work effectively under pressure	2.13	0.96
3.	Ready to start an agribusiness venture	2.23	0.98
4.	Having financial support for your agribusiness	2.25	1.50

had courage, risk-bearing abilities, willingness to learn, creativity, and leadership skills, respectively. In contrast, only 13.74% had the ambition to be an entrepreneur.

Table 5 depicts that students had experience in managerial work (Mean=2.46), followed by computer proficiency (2.40) and the ability to assess the strengths and weaknesses of competitors (2.25).

Awareness of Students regarding Government Schemes and Initiatives

The study revealed that more than half of the respondents (54.97%) knew about the Startup India government initiative. It further shows that more than 53.55 per cent of the respondents had heard about the Agri Clinic/ Agri-Business Centres Scheme of the National Institute of Agricultural Extension Management (MANAGE). Still, 34.59% and 33.64% of the respondents were aware of the

Dairy Entrepreneurship Development Schemes (DEDC) and Agriculture Skill Council of India (ASCI). On the other hand, only 22.27 per cent of the respondents had heard about the venture Capital Assistance Scheme. Further, 26.54 per cent and 21.80 per cent of the respondents were aware of the Technology Business Incubators (TBI) and Atal Incubation Centres (AIC), respectively. However, 55.45 per cent of respondents agreed that incentives, subsidies, and grants from Government were adequate for entrepreneurs.

Regression Analysis

Multiple linear regression was used to quantify the effect of personal factors on entrepreneurial readiness and other constructs such as Entrepreneurial Intention (EI), Entrepreneurial Perceived Ability (EPAb), Entrepreneurial Perceived Attractiveness (EPAt), Entrepreneurial

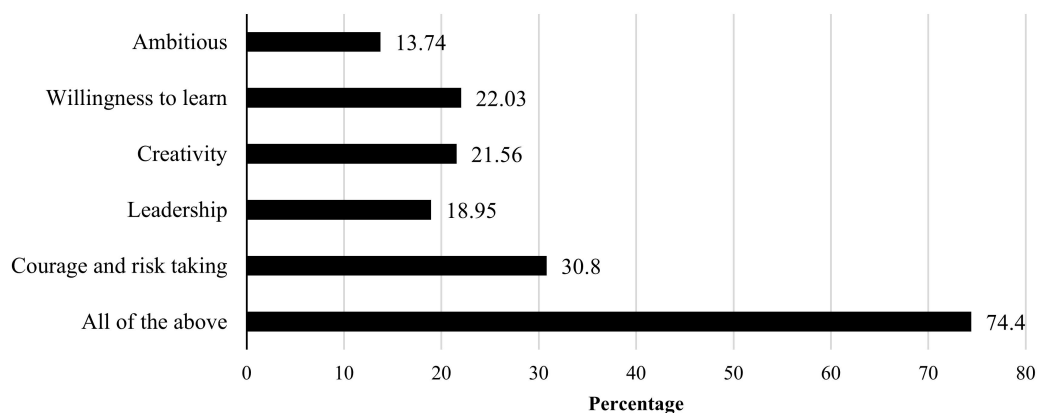


Figure 3. Skills possessed by agri-graduates for venturing into entrepreneurship.

**Table 5.** Experience of students.

S. No.	Statements	Mean	SD
1.	Possession of needed skills for entrepreneurship	2.01	1.17
2.	Feel comfortable using a computer	2.40	1.51
3.	Feel comfortable hiring, disciplining, and delegating tasks to employees	2.11	0.82
4.	On discovering non – possession of the basic skills needed for business, would be willing to delay plans until acquirement of necessary skills	2.20	0.93
5.	Assessment of the strengths and weaknesses of key competitors and development of tactics	2.25	1.00
6.	Having worked as a manager or supervisor	2.46	1.49

Learning Orientation (ELO), and Entrepreneurial Passion for Work (EPW).

Age was found not to influence entrepreneurial readiness or other constructs. The gender of the respondents had a significant influence on entrepreneurial readiness as well as other constructs, with male students being more entrepreneurial-ready compared to females. Having an entrepreneur in the family and participating in any entrepreneurship-related event positively influenced entrepreneurial readiness, entrepreneurial intention, and perceived attractiveness. The respondents disagreeing with “the support from the government is adequate” were found to have

low scores for entrepreneurial perceived attractiveness. However, awareness about various government schemes had no influence on any of the constructs or entrepreneurial readiness.

DISCUSSION

Entrepreneurial readiness among agri-graduates has not been adequately researched and theorized, especially in the Indian context. The paper delivers a theoretical framework to design and develop content for entrepreneurship education in agriculture. Also, it draws a roadmap as to

Table 6. Regression analysis of variables.

Dependent Variables	EI	EPAb	EPAt	ELO	EPW	ER
Independent Variables						
Intercept	14.66	10.11	9.77	13.06	12.80	60.41
Age	0.05	0.21	-0.8	0.17	0.16	0.52
Gender (Male)	1.18***	1.59***	0.82***	0.91**	0.92**	5.44***
Year of Study	-0.68	-0.34	0.46	-0.66	-0.61	-1.84
Have Entrepreneur in Family	1.15**	0.77	0.93**	0.66	0.59	4.12*
Taken Small Entrepreneur Courses or Attended any training/workshop/seminar	0.66*	0.35	0.78*	0.39	0.55	2.75*
Awareness of various government schemes and programmes	-0.02	0.29	0.29	-1.02	-0.06	-0.53
Agrees that support from Govt are adequate	0.23	0.01	-0.49*	-0.21	-0.41	-0.89
Measures of Goodness						
F	3.86	2.97	3.64	1.58	1.70	3.34
p	< 0.01	< 0.01	< 0.01	0.13	0.01	< 0.01
Adjusted R ²	4.5	3.2	4.2	2.6	1.1	3.7

*** Significant at 1%, ** Significant at 5%, * Significant at 10%.

which characteristics need to be developed or strengthened among students to engage them in agri-preneurship. The study found that most respondents (74.40%) had a medium level of entrepreneurial readiness. had financial support for agribusiness and were ready to start their ventures. More than half of the respondents were aware of the various government schemes related to entrepreneurship like the Agri Clinic/ Agri-Business Centres Scheme of the National Institute of Agricultural Extension Management (MANAGE), Dairy Entrepreneurship Development Schemes (DEDC) and Agriculture Skill Council of India (ASCI). The possible reason for this could be that a significant number of the respondents had attended programs on entrepreneurship. Also, a World Bank funded project is creating sensitization programs among the students on entrepreneurship in Indian Agricultural Universities. A positive correlation exists between the students learning orientation and perceived ability. The findings are similar to that of De Clercq *et al.* (2012), who also reported a positive association between the learning orientation of students and their perceived ability to succeed in their entrepreneurial ventures.

Students had managerial work experience and computer proficiency. Students in a typical agricultural university are exposed to various skills due to practical courses during their graduation, like Rural Agricultural Work Experience (RAWE). Courses like farm economics and extension give them much experience in management, supervision, using computers, and Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis, indirectly providing entrepreneurship-related exposure.

Further, we found that male students had entrepreneurs in their families and attended training/seminars/workshops on entrepreneurship positively influenced entrepreneurial readiness. The results align with Zhang *et al.* (2013), who reported that women were less desirous of starting a new venture than men. These findings are similar

to that of Hisrich *et al.* (2017), who said that family background had a prime role in developing an entrepreneurial personality. Individuals try to go in for the same vocation as their parents. Pant (2015) discovered that some entrepreneurs had inherited entrepreneurship from their family traditions.

It further reveals that independent variables like gender, having entrepreneurs in their family, and attending any entrepreneurial training/workshop/seminar contribute to entrepreneurial readiness. Students who participated in entrepreneurial training/workshops/seminars had more entrepreneurial readiness for business. With the improvement in education and support for entrepreneurship, students are more likely to be attracted to agribusiness ventures. Similarly, according to the findings, budding agri-graduates who had at least an entrepreneur in the family were more prepared to be entrepreneurs. It is natural that if one has an entrepreneur in the family whom they can follow and consider an ideal, he/she would surely be more inclined towards entrepreneurship.

Therefore, we recommend that the colleges take necessary measures to provide students with knowledge on entrepreneurship to increase their entrepreneurial readiness. The study proves that the learning orientation of students has a positive correlation with entrepreneurial perceived ability, so, teachers should motivate students to learn entrepreneurship-related subjects thoroughly rather than just finishing their task of lecturing. Almost half of the respondents were aware of the various government schemes and initiatives that give a clarion call for agricultural universities to make their graduates aware of the government programs targeted towards helping them become entrepreneurs and providing handholding support. Further, it depicts that the independent variables like gender attending any entrepreneurial training/workshop/seminar and having an entrepreneur in the family are significant factors in entrepreneurial readiness.



Therefore, there should be gender-specific entrepreneurial exposure to attract female students to agri-preneurship.

CONCLUSIONS

Universities should educate agri-graduates in their final year regarding pro-entrepreneurship programs and government schemes to accelerate students' readiness for agri-preneurship. Also, recommendations are due for agricultural colleges to rope in introducing entrepreneurship ideas at the graduation level through the establishment of Agri-preneurship Development Cells (ADCs). Such efforts by the agricultural universities would surely lessen the unemployment problem among the passing out agricultural graduates and their regions' social and economic development.

Although the study was limited to publicly funded State Agricultural Universities (SAUs), a similar analysis can be carried out with private universities in India and abroad. These findings are deemed helpful for policy-making in agricultural education to stride forward towards agri-preneurship to nurture the entrepreneurial ecosystems of agricultural universities in India.

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بررسی آمادگی کارآفرینی فارغ التحصیلان کشاورزی هند: مسیری به سوی اکوسیستم کارآفرینی پیشرفته

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چکیده

در کشورهای در حال توسعه، هدف نهایی آموزش کسب درآمد است. علوم کشاورزی در هند در بیش از ۷۴ دانشگاه کشاورزی تدریس می شود. این مقاله به بررسی آمادگی کارآفرینی می پردازد و هدف آن درک عوامل مختلف زمینه ساز آمادگی کارآفرینی دانشجویان کشاورزی است. داده های ۴۲۲ دانشجوی ۹ دانشگاه دولتی کشاورزی (SAU) در هند نمونه این پژوهش را تشکیل دادند. از پرسشنامه خود گزارش دهی (self-reporting questionnaire) برای سنجش آمادگی کارآفرینی بر اساس قصد کارآفرینی، توانایی درک شده، جذابیت درک شده، جهت گیری یادگیری کارآفرینانه و اشتیاق به کار استفاده شد. آزمون همبستگی همبستگی مثبت بین تمامی متغیرها نشان داد و مقادیر همبستگی بین ۰/۴۰ تا ۰/۶۸ متغیر بود. اکثر دانشجویان (۷۴/۴۰٪) آمادگی کارآفرینی متوسطی داشتند. آنها بلندپرواز بودند، مایل به یادگیری بودند و دارای خلاقیت، رهبری، شجاعت و توانایی های ریسک پذیری بودند که برای کارآفرینی لازم است. تجزیه و تحلیل رگرسیون نشان داد که متغیرهایی مانند جنسیت، قرار گرفتن در معرض آموزش کارآفرینی/کارگاه ها/سمینارها و وجود کارآفرین در خانواده عوامل مهمی در آمادگی کارآفرینی هستند. این یافته ها به اساتید و موسسات ظرفیت سازی (capacity building) و آموزشی دانشگاه های کشاورزی کمک می کند تا محتوای برنامه های آموزش کارآفرینی را برای فارغ التحصیلان کشاورزی طراحی نموده و آنها را به ارائه دهنده کار و نه جوینده کار تبدیل کنند و به بهبود اکوسیستم کارآفرینی در دانشگاه های کشاورزی کمک نمایند.