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Investigating barriers to enhance entrepreneurship in agricultural higher education from the perspective of graduate students

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Abstract

Nowadays, the concept of entrepreneurship will be given special importance, so that considered as the engine of economy and culture change. Development of entrepreneurial culture and support for entrepreneurs and job creation in the agricultural sector seems to be necessary. This necessity, in agricultural higher education that its duty is to provide human specialist resources is more. The purpose of this study was investigating barriers to enhance entrepreneurship in the Agricultural higher education. A descriptive–correlation survey approach was used in this study. The population consisted of agricultural graduated students in agricultural faculty of Zanzan University (n=100). The main tool of this research was the questionnaire contains five sections that were developed by researchers. Data collected were analyzed using the software Excel and SPSS version 16. The results showed that lack of adequate government support, limited financial ability to provide graduates employment arrangements in the agricultural sector and lack of efficiency in universities to educate entrepreneur graduate are the main barriers to employment of agricultural graduates. By factor analysis, factors for barriers to enhance entrepreneurship in the agricultural higher education were reduced to five main factors. These five factors in order of importance include: unsuitable selection and training methods, inappropriate content and educational planning, communication barriers, lack of entrepreneurial training courses and books on agriculture and poor assessment and instructional programs, which in total have been able to 53.44 percent of the variance in barriers to strengthen entrepreneurship in the agricultural colleges.

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1. Introduction

Policies of the Iranian constitution have been given a special place as part of cooperation in various sectors including agriculture. Despite the overall policies of Iran that notified increasing the share of cooperative sector in the economy to 25% refers to the end of 2016, the share of cooperative sector in the economy is only 4 to 5 percent (latifiyan, 2008). Research results indicate that despite increasing the number of cooperatives, the growth of their quality were not satisfactory. Development of entrepreneurial culture and support entrepreneurs and create employment seems necessary for improvement. In the agriculture sector, which it is interpreted as a development

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center considering it can be helpful (Yaghoubi, 2010). The purpose of this study was identifying factors affecting the development and strengthening entrepreneurship in agricultural production cooperatives in Zanjan province.

Analyzing the impact of Extension education and entrepreneurship development in Nigerian agriculture indicates that most farmers in Nigeria have limited entrepreneurial (technical and managerial) capacity due to old age, illiteracy, lack of skill in agricultural production and gender related constraints. (Onyebinama & Onyebinama, 2010). Assessing the situation and perspectives in development of sheep farmers' entrepreneurship in Podlaskie province showed that sheep farmers' readiness for changes (entrepreneurial behavior) was expressed by possibilities of increasing sheep production profitability. However, a level of entrepreneurship of the sheep farmers was low (Rokicki, 2010). Investigating problems of development of agricultural production and entrepreneurship in Latvia showed that there are considerable areas of unutilized agricultural land in Latvia, and the productivity is low. The entrepreneurs in agriculture have to face different factors, affecting the production. Expert methods may help in combination of these factors. Different models may be elaborated on the basis of the factor combination. These models are convenient for entrepreneurs, and allow taking into consideration the regional specifics. (Zvirgzdina, Vitola, & Tilta). Result of assessing extension and education factors influencing the success of entrepreneurship among rural women in northern Iran showed that contact with agricultural experts was the main influencing factor in entrepreneurial activities of rural women. It was found out that relatives and family members were the main sources of information for entrepreneurs and there is need for more training and education of rural women in improving their entrepreneurial activities (Hosseini, Mirdamadi, & Nejad, 2009).

Results of another study about factors influencing the entrepreneurship in Iran's agricultural cooperatives indicated that the factors were categorized into eight groups, namely psychological/cognitive, education, economical, organizational, financial, personal characteristics, regulatory, and social, ordered by the magnitude of their impact (Ghiyasi, Hosseini, Malekmohammadi, & Hosseini, 2009). Evaluating participation level of farm women in entrepreneurship activities under self help groups in India showed that trainings attended, mass media exposure, and socioeconomic status had significant effect on women participation in entrepreneurial activities of self help groups. Further, entrepreneurial behaviour of women had highly significant association with their participation, which was accounted to the fact that women with high entrepreneurial behaviour may be economically motivated (Bhagavathi, Venugopal, Nagesha, & Nagabhushanam, 2008)

Because of changes in social environment the knowledge system has also undergone a change and consequently the University, which is based and developed under this system be changed. Therefore, matching the functions of the university environment, universities must seem to have changed their strategy and mission to train entrepreneurial graduates. In fact universities have a key role in developing entrepreneurship in the country. Hence one of the key missions of the universities is to develop potential entrepreneurs (razavi & zali, 2009). Iran's universities have become an effective institution which responsible in educating experts in all fields of scientific and technical services (Amirnegad & Mohsennasab, 2009). Development of entrepreneurial culture and supporting entrepreneurs also seems necessary for improvement and creating jobs in the agricultural sector. This necessity in agricultural higher education that responsible for training human resources specialists is more important.

Several studies find a positive impact of entrepreneurship education courses or programs at universities on perceived attractiveness and feasibility of new venture initiation or even on actual start-up activity. (Graevenitz, Harhoff, & Weber, 2011). Running higher education with financial constraints, together with the need to address the expansion of higher education opportunities would anticipate universities have to work more closely with the industry, business, commerce and other non-state sectors to make modern universities not only more entrepreneurial but also more applied and professional in keeping pace with rapid social and economic changes. (Mok, 2005).

There are numerous studies on various relations between entrepreneurship, education, and the success of the entrepreneurs (Henry, Hill, & Leitch, 2003; Jones & English, 2005; Solymossy, 1998). Education is among the most frequently applied variables in research that seeks to address the performance of new business ventures. Entrepreneurship education ranks high on policy agendas in Iran, but little research is available to assess barriers to improve it in higher education. The question raised in this regard is that what are the barriers to strengthen entrepreneurship in agricultural faculties and these obstacles how can be resolved? This study followed to answer this question from the perspective of agricultural graduate students.

2. Methods and Data Source

The methodological approach of this study employed an analytical method. A descriptive research methodology was used in this study. The study population consists of agricultural graduated students in Zanjan University, Iran. (n=100) by using stratified randomization method. On the basis of review of the literature, a questionnaire was developed to collect the necessary data. The questionnaire covered two areas: 1) demographic characteristics such as age, sex...2) barriers to encouraging entrepreneurship in agricultural higher education which were measured on a nine-point scale which ranged from 1(very little) to 9 (very much). Content and face validity of questionnaire were discussed in the panel discussion that experts from Zanjan province agricultural organization office and academic staff from department of agriculture and extension education. Reliability of questionnaire was estimated by calculating Cronbach's Alpha. Reliability for the overall instrument was estimated at 0.78. Data collected were analyzed using the Statistical Package for the Social Sciences (SPSS16). Appropriate statistical procedures for description (frequencies, percent, means, and standard deviations) and inference (factor analysis) were used.

3. Results

3.1. Personal characteristics of respondents

Mean age of graduate students was 25.94 years (s=2.73 year). Youngest student was 22 and oldest student was 34 years of age. 48.5% of them were male and 51.5% were female. In terms of employment, 69.2 percent of respondents already had no another job other than education, but 21.6 percent have a part-time employment and 10.2 percent were employed full-time. The demographic data collected from the subjects of this study is summarized in Table 1. 84.5% of respondents have BA degree and 15.5 % have MA degree.

3.2. Barriers to employment of agricultural graduates

Statistics show that a large percentage of agricultural graduates are employed in the sectors other than agriculture (for example, industry or services). So, Main barriers to employment of graduates in agriculture were studied. The results are shown in Table 1. As can be seen in Table 1, from the viewpoint of graduate students, the main barriers to employment in agriculture graduates are: lack government support for agriculture, financial inability to provide employment in the agricultural sector and lack of performance in university education training entrepreneur graduates. Lack of interest in the options business of the agricultural sector respondents has the lowest score.

Table 1. Barriers to employment of agricultural graduates

Groups	mean	SD	C.V.
Weak government support for agriculture graduates	6.59	2.72	0.41
Financial inability to provide employment arrangements in the agricultural sector	6.44	2.34	0.36
Inefficacy of the universities in training entrepreneur graduates	6.28	2.59	0.41
Disproportion courses offered in agricultural colleges with labor market needs	6.10	2.43	0.40
Limitation of career opportunities in agriculture	6.06	2.99	0.49
Low levels of employment knowledge and skills of agricultural graduates	5.69	2.45	0.43
Low level of creativity in graduates because of inappropriate teaching methods in university	5.35	2.37	0.44
graduates lack of interest to the agricultural sector jobs	4.96	2.52	0.51

Scale: 1) Very little..... 9) Very much

3.3. Factor analysis of barriers to strengthening entrepreneurship in agriculture colleges

To determine the suitability of collected data for factor analysis, the Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity (BTS) applied to ensure that the characteristics of data set were suitable for factor

analysis. KMO analysis yielded an index of 0.697 and BTS 846.13, $p < 0.000$. According to Kaiser's criterion, the only important components are those that have an eigenvalues of 1 or more.

To decide how many variables meet Kaiser's criterion, it is necessary to search in the total variance shown in Table2. The total variance explained the eigenvalues associated with each factor (linear components) before extraction, after extraction and after rotation. Before extractions there are 20 components which are all variables listed. Under the Extraction Sum of Square Loadings only factor with eigenvalues bigger than 1 is listed, the result is only 5 factors. In the last part of the table the eigenvalues of the factor after rotation are displayed. Rotation of the factor axis has an effect which is optimizing the factor structure.

These five factors explain a total 53.44% of the overall variance after rotation (Cumulative % column after rotation). Factors enhance the development of entrepreneurship in agricultural cooperatives were measured with 21 questions through five levels Likert range. The results are shown in Table 2.

Table2. Total Variance Explained before and after rotation

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.424	28.554	28.554	7.424	28.554	28.554	4.212	16.199	16.199
2	2.471	9.504	38.058	2.471	9.504	38.058	3.035	11.673	27.872
3	1.782	6.854	44.913	1.782	6.854	44.913	2.649	10.188	38.061
4	1.653	6.359	51.271	1.653	6.359	51.271	2.055	7.906	45.966
5	1.334	5.132	56.403	1.334	5.132	56.403	1.942	7.470	53.437
6	.957	5.000	61.404						
7	.924	4.522	65.926						
8	.864	3.680	69.606						
9	.769	3.555	73.161						
10	.711	3.322	76.483						
11	.643	2.957	79.441						
12	.564	2.734	82.175						
13	.554	2.472	84.647						
14	.485	2.170	86.818						
15	.385	2.132	88.949						
16	.355	1.867	90.816						
17	.289	1.482	92.298						
18	.275	1.366	93.664						
19	.265	1.111	94.775						
20	.244	1.057	95.833						

Each factor was labelled to describe items that loaded on it and the number of items for each factor ranged from four to seven. Table 3 summarizes the factors, eigenvalues, percentage of variance and cumulative variance for each factor. The factor loadings ranged from 0.521 to 0.893 and the eigenvalues ranged from 1.942 to 4.212. Factor1: unsuitable selection and training methods explained 16.20 % of the variance, factor2: inappropriate content and educational planning explained 11.67 %, factor3: communication barriers explained 10.18%, factor4: lack of entrepreneurial training courses and books on agriculture explained 7.91 % and factor 5: poor assessment and instructional programs explained 7.47%

4. Conclusion

Results of this study showed that lack of adequate government support, limited financial ability to provide jobs for graduates in agriculture, lack of performance of graduates of universities in entrepreneurial education are the

most important barriers to employment agriculture graduates in agricultural sector .(Sabaghyazdi, 2009) also has been mentioned lack the same relationship to the graduates' ability to set up business as one of the leading challenges in different communities.

Results of factor analysis showed that factors for barriers to enhance entrepreneurship in the agricultural higher education were reduced to five main factors include unsuitable selection and training methods, inappropriate content and educational planning, communication barriers, lack of entrepreneurial training courses and books on agriculture and poor assessment and instructional programs. In (Sharifi, Alizadeh, Esmailipour, & Solaymani, 2009) study structural, infrastructure, education, incentives and motivation factors are listed as the major obstacles for agricultural entrepreneurship. The structural and educational factors are consistent with the results of this study. Also, the findings of (Ebnali & Rajabinasab, 2005) and (Bardi, Liaghatdar, Abedi, & Jafari, 2004) matches with result of this study.

The results of this paper indicate weakness in the selecting and training methods, content and educational planning in agriculture colleges from the perspective of agriculture graduate students. From the perspective of respondents, agricultural higher education system to train entrepreneurial graduates needs to modified in all its parts (from selecting to evaluation). To accomplish the possibility of dynamic interaction with the agricultural Colleges and labour market needs it is recommended that changing in syllabus delegate to departments instead of ministry and universities

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