



Explaining Sustainable Development Strategies for Agricultural Entrepreneurship Activities in Kermanshah Province, Iran

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Abstract

The high capacity of the agricultural sector in Kermanshah Province needs more attention for some reasons including weather and climate conditions, access to fertile lands, and ready-made labor force. The current research seeks to achieve a major strategy for the development of entrepreneurship activities in the agricultural sector of Kermanshah Province. To reach end a mixed research method was used in which the content analysis and survey methods were used in the qualitative and quantitative phases, respectively. The content analysis and "Analysis of Hierarchy Process (AHP) were applied by using Expert Choice software for data analysis. In the quantitative part, the study population was comprised of agricultural entrepreneurs in Kermanshah Province, of which 27 participated in semi-structured interviews. In the quantitative part, a pairwise comparison questionnaire was administered to 10 entrepreneurs who were entrepreneurship experts. Based on the results obtained from the current research, the development strategy, namely "regional market development, paving the way for the development of entrepreneurial companies, and presentation of products fabricated by agricultural entrepreneurs in Kermanshah Province in regional, national, and international exhibitions", was chosen as the best conservative strategy with the final priority of 0.347. In addition, another strategy, i.e. "the formulation of policies and establishment of appropriate support platforms for agricultural entrepreneurs by the state and organizations, such as subsidizing producers and providing facilities to entrepreneurs to facilitate access to suitable land for their activities", with the final priority of 0.270% was chosen as the alternative strategy for the development of entrepreneurial activities in Kermanshah province.

Keywords:

Agricultural entrepreneurship, sustainable agriculture, sustainable entrepreneurship, sustainable development

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INTRODUCTION

Nowadays entrepreneurship has become a unique strategic approach to developing human communities through which all the factors, resources, and facilities of a society are mobilized to achieve societal great goals spontaneously aiming to be the origin of many positive social-economic consequences (Seidali & Sadeghi, 2014). The importance of the effect of entrepreneurship on all aspects of human life has led to the creation and reinforcement of entrepreneurship in every society to be spotlighted more or less, and several approaches and viewpoints have been presented for its promotion (Toosi et al., 2014). Therefore, entrepreneurship is a new solution in development theories for empowering and building capacity in regions and creating economic, social, environmental, and economic equivalents and is an important tool to achieve sustainable development (Faraji et al., 2011; Hall et al., 2010).

The process of sustainable development dates back to the 1970s when it was introduced to turn focuses on the need for integrating and pursuing human well-being and stopping the destruction of the environment. Indeed, in the process of sustainable development, businesses need to be equally important for environmental and social purposes compared with economic goals. Although the economy and the environment had previously regarded as two competing fields and economic growth was not possible without environmental destruction, but in the context of sustainable development, economic opportunities should be consistent with two other objectives. Considering the importance of the issue of sustainable development, we have tried to address this issue in the field of entrepreneurship because sustainable development in entrepreneurship-related policies is a challenging concept, and the more non-renewable resources an entrepreneurial activity uses and the more devastating impact it has on the ecosystem, the farther it will be from the concept of sustainable development.

One of the most important areas in which sustainable development is of great importance (Matondi, 2013) is the sector of agricultural entrepreneurship activities. These activities provide the opportunity to achieve sustainable development through the detection, evaluation and exploitation of opportunities and the creation of values that provide economic assets, social coherence and environmental protection. This type of entrepreneurship combines environmental and economic issues and takes advantage of opportunities in the form of future products and services in a way that economic, psychological, social and environmental consequences are dealt with simultaneously. In other words, three dimensions of entrepreneurship, i.e. social, economic and environmental aspects, are covered with a wider conception entitled sustainable entrepreneurship (Moghipi et al., 2013).

According to the Asian Productivity Organization (2003), although the issue of sustainable development of agricultural businesses and the agricultural sector is of great importance, there is still no definite program for the development of these businesses in the country, and the adopted short-term measures are non-strategic and non-flexible. Most of these businesses are struggling with problems like the lack of managerial capacity, the low adoption level of new technologies, the sophisticated and sluggish process of granting bank credits and funding, and repayment of the received credits. For these reasons, they are unable to supply competitive products and services of high quality (Sharifzadeh, 2014).

Also, according to the World Bank, between 1990 and 2001, Iran's agriculture accounted for, on average, 15.2 percent of gross domestic product with a share of 26 percent in non-oil exports. On the other hand, Iran's agriculture accounts for a quarter of the total employment; in other words, 25 percent of Iran's total employment opportunities are related to the agricultural sector. The food industry of the country (as an important part of the agricultural sector) has the second

highest production in the industrial sector of Iran after the oil refinement industry (Karami Barzabad & Karami Barzabad, 2014).

One of the major poles of agricultural businesses that make significant contributions to the agricultural sector of Iran, but unfortunately it does not get much attention is Kermanshah Province (Ghambarali et al., 2014). Due to the lack of optimal use of its high potentials such as water, soil, and climate, this province is struggling with many obstacles in developing and increasing agricultural productivity so that the share of employment in the agricultural sector has fallen from 31.9% in 2006 to 27.6% in 2010. To deal with these barriers, it is necessary to determine the appropriate strategies based on accurate analysis of the business environment in the agricultural sector. Therefore, in the present study, we have investigated the strengths, weaknesses, opportunities, and threats of the advancement of entrepreneurial activities in agriculture and subsequently presented strategies for sustainable development of agricultural entrepreneurship.

Sustainable entrepreneurship is, in principle, similar to other forms of entrepreneurship, but it addresses social and environmental results with economic results together. Therefore, sustainable entrepreneurs have a lot of responsibilities. Entrepreneurship can play a major role in improving productivity, making optimal use of resources, reducing risks, minimizing waste, and preserving the environment and cultural development. In the study of sustainable entrepreneurship, most studies have focused on environmental entrepreneurship (Aemani Ghashlaghi & Hashemi, 2009; Abrahamsson, 2007; Chick, 2009; Cohen & Winn, 2007; Dean & McMullen, 2007; Dixon & Clifford, 2007; Gibbs, 2009; Krueger, 2005; Schlange, 2006). Abrahamsson (2007) states in the definition of sustainable entrepreneurship that its concept relies on three dimensions: a) searching, finding and creating innovation to solve sustainability problems; b) discovering solutions based on a creative organization;

and c) creating sustainability values and respect for the environment. O'Neill et al. (2009) explain that sustainable entrepreneurship is an investment process that contributes to the emergence of sustainable social and environmental development in an entrepreneurial system. This type of entrepreneurship involves the continual commitment to business activities along with keeping and maintaining moral obligations, contributing to economic development, and improving the life quality of families in local communities (Hockerts & Wüstenhagen, 2010). Shepherd & Patzelt (2010) define sustainable entrepreneurship as discovering and exploiting economic opportunities through market imbalances and the beginning of a transformation in environmental and social sustainability. In addition, they consider sustainable entrepreneurship as preserving nature and protecting life and society for achieving centralized opportunities in products, processes, and services along with the economic and non-economic achievements of individuals (Zahra et al., 2009).

Based on the above definitions, one can say that the main theme of sustainable entrepreneurship is the question of how entrepreneurs can work to preserve economic, environmental, social and cultural factors. To this end, entrepreneurial activities should be innovative, creative, risk-taking and profitable. Therefore, sustainable entrepreneurship is aimed at exploiting creative opportunities for economic benefits, justice in society, environmental quality, and the preservation of culture. In general, the concept of sustainable entrepreneurship has become very important in recent years (Schaltegger & Wagner, 2011). The relationship between entrepreneurship and sustainable development has been shaped by different schools of thought and often as a result of the launch of new types of entrepreneurship, such as economic and social entrepreneurship (Daryaei, 2012; Schaltegger & Wagner, 2011). Whilst economic entrepreneurs have been looking for

environmental opportunities from an economic point of view, social entrepreneurs have had a wider perspective. Undoubtedly, the development of sustainable entrepreneurship provides entrepreneurs with a better understanding of entrepreneurial activities and will greatly influence the environment (Daryaei, 2012).

In an article titled "Entrepreneurship Development in Iran", Daryaei (2012) divided the challenges of agriculture in Iran into two categories of antitrust and legal barriers among which antitrust factors can be named such as the risk factor of this activity due to different reasons. From the viewpoint of legal and economic constraints, we can mention the lack of adequate government attention to this sector and the lack of efforts to create the right culture. In a review, Kiakojuri et al. (2012) presented a model of the barriers and challenges in rural entrepreneurship development, the barriers affecting the development of rural entrepreneurship in three groups of individual barriers (physical capital, human capital, and social capital), organizational barriers (Rural Organization, funding support, training and rural entrepreneurship) and environmental barriers (economic environment, social and cultural environment, administrative and legal environment, and geographical environment). In the research of Karimi and Bouzarjamhari (2014), a descriptive survey was conducted on 114 managers of agricultural co-operative companies in Fars province and it was found that granting low-interest rate for financial facilities was in the highest level of prioritizing financing mechanisms in agricultural co-operative enterprises. Also, the results showed that these mechanisms consist of six factors: facility, support, counseling, education, communicational, technical-professional, and regulatory, which, in total, had the capacity to explain 63.19% of the total variance of business financing mechanisms and small and medium enterprises.

The review of studies in other parts of the world showed that no study has been done or

has not been observed by the researcher on the subject matter of the present work. The closest study in terms of the subject was that of the factors affecting the development of entrepreneurship in rural areas of India. This study was a descriptive survey using a questionnaire to identify the positive factors affecting entrepreneurship development in the studied area. However, we consider both the positive and negative factors affecting the development of agricultural entrepreneurship (Kajanus et al., 2004). With regard to agricultural studies and the challenges, it has been discussed less in the field of agricultural entrepreneurship. In other words, research has mostly focused on the barriers or the factors affecting the success of entrepreneurs. Some studies have also been carried out in Kermanshah County or Kermanshah Province, mainly in one of the agricultural branches. Ghanbar et al. (2014), also, conducted a survey of the agricultural entrepreneurship ecosystem in Kermanshah province and its counties and addressed the status of ecosystems. While the problems of agricultural entrepreneurship have not been discussed, the present work is a focus on this problem to tackle them.

METHODOLOGY

In this research, strategic analysis of the agricultural development entrepreneurship activities in Kermanshah Province has been analyzed using the SWOT-AHP model. This work was a descriptive-analytical research and a qualitative-quantitative or combined exploratory sequential one in terms of the methodology. Content analysis and survey methods were used in quality and quantity sections, respectively. The research population was composed of agricultural entrepreneurs in the qualitative phase and experts in the area of entrepreneurship and agriculture of Kermanshah Province (agricultural entrepreneurs, experts, professors of Department of Entrepreneurship and Agriculture at Razi University) in the quantitative phase. According to the nature of qualitative research in

that there is no statistical sampling, the purposive and available sampling was used (Cohen & Winn, 2007). So, the researcher used the list provided by the Science and Technology Park of Kermanshah Province to select entrepreneurs who had, at least, two years of continuous activity in the production of agricultural products.

The aim of this study was to identify the strengths, weaknesses, opportunities, and threats of agricultural entrepreneurial activity. So, the people who have recently entered this area could not enumerate the SWOT factors. In fact, people who had sufficient experience in this area could be helpful. The researcher interviewed agricultural entrepreneurs (successful and unsuccessful) in the county of Kermanshah. It should be noted about the number of samples in the qualitative phase that the interviews in this phase kept going on until theoretical saturation (27 people). In the quantitative phase, 10 entrepreneurs, agricultural experts, and professors of Razi University (Department of Agricultural Education and Entrepreneurship) were given the AHP questionnaire to weight each SWOT factor, their relationships, and strategies. Since the pairwise comparison questionnaire should be given to experts with mastery over all the criteria and options of the problem and in some cases there might be more than 3 or 5 experts in the population in question, then there were no problems in this regard and the results were also scientific and reliable as the questionnaires were completed by the experts and there was no need to have many samples. Hence, to conduct the quantitative phase among different classes of experts, people were purposefully selected that had expertise in entrepreneurship, and the questionnaire was given to them for weighting. The data were collected through documentary and field methods. The data collection was performed by deep and semi-structured interviews and paired comparison in the AHP questionnaires as the field section, and books, papers, journals, and MA and Ph.D. dissertations were reviewed as the

documentary section.

The AHP method is based on the paired comparison of alternatives and criteria for decision making. This comparison needs the information of decision-makers. This comparison lets decision-makers focus on just two criteria or options without any external disturbance or intervention. In addition to the double-sided comparison, because the respondent evaluates only two factors and does not focus on other factors, it provides valuable information for the problem under consideration and makes the decision-making process logical (Rahnami & Pourahmad, 2010).

The pairwise comparison questionnaire in this study consisted of a two-way and paired comparison between SWOT factors (strengths and weaknesses, opportunities and threats), in which the factors of the questions from the qualitative section (interviews conducted) were used to rank and prioritize SWOT factors and extract strategies to develop entrepreneurship activities in Kermanshah Province. In the first stage, based on the results of the content analysis, the strengths, weaknesses, opportunities, and threats of the sustainable development of agricultural entrepreneurship activities in Kermanshah Province were extracted from the interviews and classified. Then, the SWOT matrix was created using the four factors of strengths, weaknesses, opportunities, and threats. In the next step, the decision was made on choosing a strategy between existing strategies and the strategies were ranked by using the hierarchical analysis method. All information at this step was collected using the integration of the 10 experts' points of view in the format of the paired comparison questionnaire. Then, these data were transferred into Expert Choice software to analyze and rank each group.

The validity of the data was confirmed by means of four criteria proposed by Lincoln and Gubba including credibility, confirmability, dependability or consistency, and transferability. Thereby, in addition to satisfying

the requirements for the researcher's reliability and theoretical sensitivity in data collection, the validity of the results was assessed using member controlling techniques, various researchers in data gathering and data analysis, and self-reviewing by the researcher. Thereafter, in order to be assured about the accuracy, the data were handed over to the research team for more consideration. In the quantitative phase, the conflict rate (CR) was calculated to determine the matrix's adjudication as the hierarchal analysis method. The conflict rate indicates the probable errors of adjudications. If this coefficient is less than 0.1, the judications' compatibility is acceptable; otherwise, revisions are required in adjudications.

RESULTS

In the first phase, in order to explain and analyze the existing situation regarding the status of agricultural entrepreneurship in Kermanshah Province and strategic planning for their application, after revising and reviewing the interviews, based on the initial codes obtained from the interviews by re-interviewing the interviewees, a list of weaknesses, strengths, opportunities, and threats was identified and categorized. A total of eight categories were selected as strengths, four categories were considered as weaknesses, five categories were considered as opportunities, and nine categories were considered as threats, confirming the superiority of strengths to weaknesses and the superiority of threats to opportunities (Figure 1). Although the SWOT analysis summarizes the most important internal factors (strengths and weaknesses) and externalities (opportunities and threats) that can affect the future of a system (Kurttila et al., 2000; Sahat & Parizadi, 2008), if it is implemented well, it can be a good basis for developing a strategy. A glance at the SWOT analysis documents shows that most analyses are limited to a series of qualitative descriptions and explanations that are by themselves unable to identify and evaluate different options of an

approach by these factors. Then, using the intersection matrix of the internal factors (strengths and weaknesses) and the external factors matrix (opportunities and threats), the matrix of internal and external factors (SWOT) was drawn (Figure 1).

In other words, the SWOT analysis has drawbacks in the measurement and evaluation of factors. Following the disclosure of the SWOT analysis constraints, efforts were made to deal with these shortcomings. Kurttila et al. (2000) proposed a hybrid approach to deal with the weaknesses of the SWOT's measurement and evaluation steps, first introduced by Thomas Alsaati in 1980 and known as SWOT (Kurttila et al., 2000; Leskinen et al., 2006; Saaty & Takizawa, 1986). This technique can analytically prioritize the SWOT factors for decision-making and their measurements by analyzing the SWOT analysis and analysis of the hierarchy (Moradi & Papzan, 2014).

Accordingly, the present study analyzes the use of Analytic Hierarchy Process (AHP) in the SWOT analysis as follows:

Step 1: First, we transform the problem into a hierarchical structure to render it measurable by AHP (Figure 2). In this form, the first level is the goal of "choosing the best strategy", the second level is allocated to SWOT groups, the third level is SWOT factors, and strategic options come at the fourth level of e model.

Step 2: At this stage, the SWOT groups (strengths, weaknesses, opportunities, and threats) are weighted by their importance and their impact on the goal (W21 calculation). The weighting method is a pairwise comparison of the groups with each other in terms of the nine-quantity table of Saati (Table 1).

Then, the data obtained from the pairwise comparisons were fed into the Expert Choice software package (a package for AHP) to perform the analysis steps and determine the importance degree of each group (Table 2).

Internal factors	External factors
Strengths(S) S1: Skilled and motivated manpower S2: Proper management of customer relationships with entrepreneurial units S3: Family support from entrepreneurs S4: Entrepreneurial characteristic of managers of entrepreneur units S5: Use of scientific methods and observance of work in production units S6: Utilizing the experience of other entrepreneurs and consulting and interacting with experts and specialists S7: Indigenous and innovative productions of entrepreneurial units S8: Understanding entrepreneurs from competitors and market inputs and sales	Opportunities (O) Supportive organizations and supportive laws O2: Regional and climate opportunities in the province O3: Holding training courses O4: Viewing similar instances of activity O5: Exchanging information with relevant stakeholders in the area of activity inside and outside the country
Weaknesses(W) W1: Production, distribution, and sales cycle problems W2: Weakness of knowledge and skills W3: Weakness in marketing and market delivery W4: Functional-managerial failure	Threats(T) T1: Organizational weakness and political-economic failure T2: Instrumental weakness and unfair competition T3: Cultural and social weakness to support women's entrepreneurship T4: Lack of necessary support and the existence of inefficient government and organizational laws T5: Climatic and atmospheric problems T6: Scientific-professional disability of relevant organizations staff T7: Inappropriate infrastructure T8: Scientific and educational problems T9: Support and functional disadvantages of related organizations

Figure 1. SWOT matrix

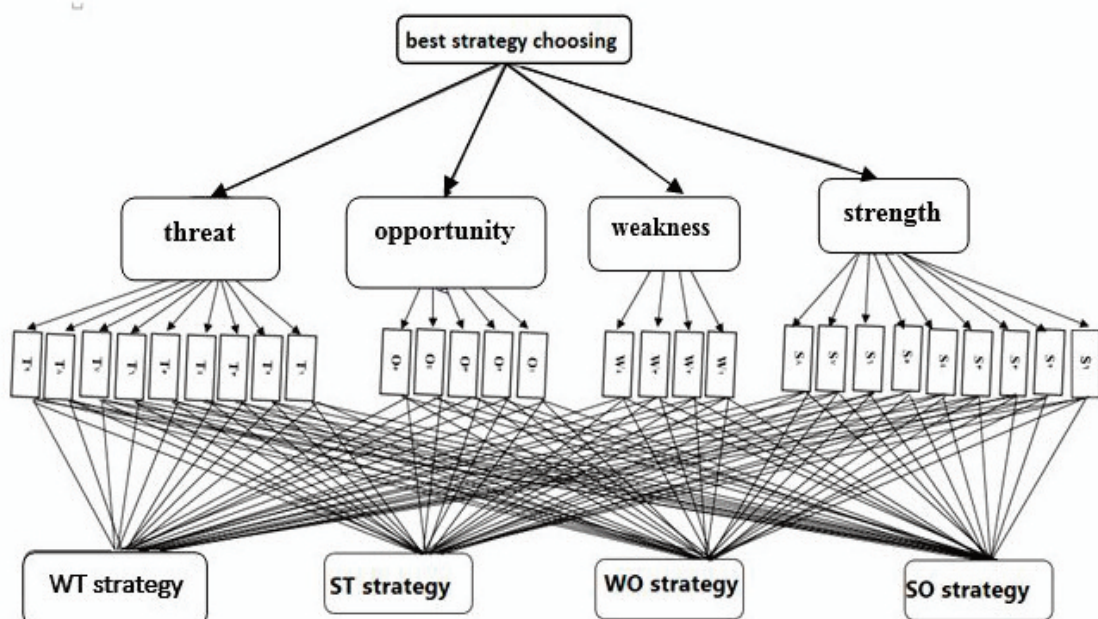


Figure 2. AHP model structure for choosing the best strategy

Table 1
Saati Scale

2-4-6-8	9	7	5	3	1
Intermediate values	Extra more important	Much more important	More important	Slightly more important	The same importance

Source: Besati et al., 2013

Table 2
Pairwise Comparison Matrix of SWOT

SWOT groups	Strengths (S)	Weaknesses (W)	Opportunities (O)	Threats (T)	Relative importance (W21)
Strengths (S)	1	1.82	2.79	1.64	0.186
Weaknesses (W)	0.55	1	1.62	1.70	0.159
Opportunities (O)	0.36	0.62	1	2.16	0.413
Threats (T)	0.61	0.59	0.46	1	0.243
					CR2=0.06

The importance vector of the SWOT groups can be summarized as follows:

$$W21 = \begin{pmatrix} S=0.186 \\ W=0.159 \\ O=0.413 \\ T=0.243 \end{pmatrix}$$

Step 3: In this step, pairwise comparison is made between the factors of each SWOT group to identify the relative importance of each factor in choosing and shaping the goal (W32 calculation).

The vector of the importance of SWOT factors is depicted in Figure 3.

In pairwise comparisons, attention should be paid to the compatibility (CR) ratio used to validate the comparisons. The compatibility ratio is less than 1.0 in the matrix of paired comparisons and if it is more than 1.0, the comparisons should be made again because of incompatibility.

Step 4: At this stage, the final priority of the SWOT factors is obtained by multiplying the

dependent priorities of each of the SWOT groups, calculated in Step 2, to the relative priority of the SWOT factors, calculated in Step 3. The results of calculating the final priorities of SWOT factors in the framework of the AHP model show that in the strengths group, 'taking advantage of the experience of other entrepreneurs and consulting and engaging experts and specialists' (final weight of 0.042) and 'recognizing entrepreneurs from competitors and markets and inputs and sales' (final weight of 0.051) are the most important strengths; and 'the cycle, production, distribution, and sales problems' (final weight of 0.052) is the most important weaknesses; 'suitable regional and climate opportunities in the province' (final weight of 0.111) and 'the exchange of information with relevant individuals in the field of activity inside and outside the country' (final weight of 103) are the most important opportunities. Finally, 'the supporting and functional weaknesses of the relevant organizations' (final weight of 0.043), 'lack of necessary support and the existence of inefficient government and organizations' (final weight of 0.046), and 'lack of appropriate infrastructure' (final weight of 0.39) are the most important

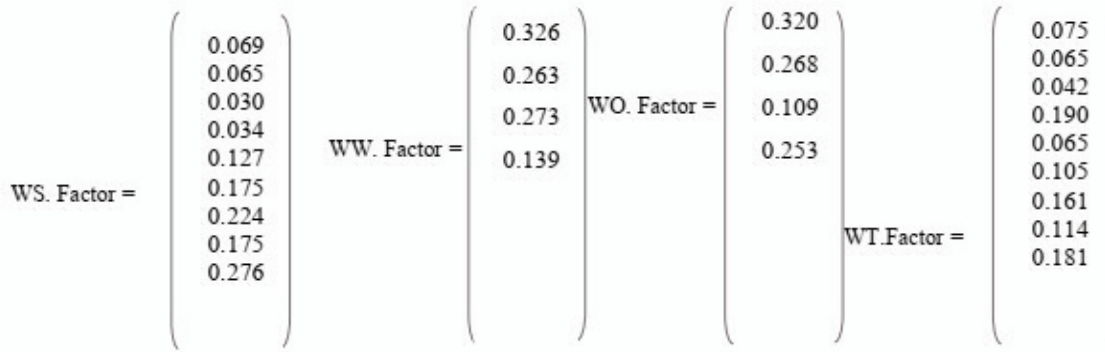


Figure 3. The importance vector of each factor

threats of sustainable development of agricultural entrepreneurship in Kermanshah Province.

So, by incorporating the results of the SWOT matrix into the AHP model and prioritizing the strengths and weaknesses, opportunities, and threats, information was

obtained for the development of strategies (Table 3 and Figure 4).

Step 5: Ultimately, the final priority of the strategy options was calculated by multiplying the eigenvector of the final priority of the SWOT factors in the matrix of the importance

Table 3
Calculation of the SWOT Factors Final Priorities

SWOT groups	The priority of SWOT groups	SWOT factors	Relative factor priority	Final factor priority
Strengths (S)	0.186	S1	0.069	0.013
		S2	0.065	0.012
		S3	0.030	0.005
		S4	0.034	0.006
		S5	0.127	0.024
		S6	0.224	0.042
		S7	0.175	0.033
		S8	0.276	0.051
Weaknesses (W)	0.159	W1	0.326	0.052
		W2	0.262	0.042
		W3	0.273	0.043
		W4	0.139	0.022
Opportunities (O)	0.413	O1	0.220	0.091
		O2	0.268	0.111
		O3	0.109	0.049
		O4	0.153	0.063
		O5	0.250	0.103
Threats (T)	0.243	T1	0.075	0.018
		T2	0.067	0.016
		T3	0.042	0.010
		T4	0.190	0.046
		T5	0.065	0.015
		T6	0.105	0.026
		T7	0.161	0.039
		T8	0.114	0.028
		T9	0.181	0.044

External	Internal	Strength (S) S8: recognition of competitors and sale market S6: using the experience of other entrepreneurs and consultation and communication with experts S7: local and innovative products	Weakness (W) W1: production, distribution and sale problems W3: marketing weakness and market supply W2: knowledge and skill weakness
Opportunities (O) O2: regional and geographical opportunities in the province O5: information exchange between related people inside and outside the country O1: supporting organizations and rules		SO strategies S8O2: development of the regional markets and entrepreneurial corporations as well as presenting entrepreneurs' agricultural products of the province in local and international exhibitions S6O5: creation of counseling centers in the field of agriculture S7O1: provision of special supporting rules to produce local and innovative products	WO strategies W1O2: low-interest financial facilities for entrepreneurs intending to develop their activities, the use of modern technologies in production, price specification and guaranteed purchase of the agricultural inputs by the state aiming to remove brokers, and holding periodic exhibitions in various regions of the province to provide agricultural inputs and products directly W3O5: arranging marketing and sale procedures of agricultural products and providing consultation and needed educations to entrepreneurs by experts W2O1: preparing supportive rules and individual empowerment of manufacturers using educational-skillful workshops by related organizations
Threats (T) T4: lack of support and inefficient governmental and organizational rules T9: related organizations' supportive-operational deficiency T7: inappropriate infrastructure		ST strategies S8T4: developing sound policies and supportive provisions by administration and organizations for agricultural entrepreneurs such as subsidizing producers and entrepreneurs for easy access to the proper farmland S6T9: using counselors and experts in every area in related organizations to improve their performance and insuring farming entrepreneurs' activities S7T7: using local workforce and innovative products to improve infrastructure	WT strategies W1T4: forcing to set efficient rules and establishment of the assessment and controlling system for production and distribution of agricultural commodities W3T9: assessment system for the performance of organizations' personnel by state institutes and development of research projects to improve the agricultural products market as well as translation of findings to beneficiaries W2T7: improving the required infrastructure for innovative business in agriculture and increasing the knowledge of farmers and agricultural graduates S7T7: using local workforce and innovative production to enhance infrastructure

Figure 4. Strategic matrix for the development of agricultural entrepreneurship activities in Kermanshah Province

degree of alternative strategies in order to choose the best strategy. According to the weights calculated, the aggressive or developing strategy (SO) with the final priority of 0.347 was selected as the best strategy for the development of agricultural entrepreneurship in Kermanshah Province. The Conservative or Revising Strategy (ST) was also selected as an alternative strategy with a final priority of 0.70 (Table 4).

$$\text{Weight of alternative} = \begin{pmatrix} \text{SO}=0.347 \\ \text{ST}= 0.247 \\ \text{WO}= 0.206 \\ \text{WT}=0.177 \end{pmatrix}$$

DISCUSSION AND CONCLUSION

Agricultural entrepreneurship and entrepreneurial activities and the sustainable development of these activities are crucial as

Table 4
Developed Strategies Based on the SWOT Final Priority

Strategy	Explanation
Offensive or developing strategies (SO)	Developing regional markets and laying ground for the development of entrepreneurial enterprises and supplying agricultural entrepreneurship products in regional, national and international exhibitions.
Competitive or variation strategies (ST)	Developing policies and creating appropriate support platforms for agricultural entrepreneurs from the government and organizations, such as subsidizing producers and offering entrepreneurs with facilities to ease access to suitable land for their activities.
Conservative or revised strategies (WO)	Providing low-interest financing facilities for entrepreneurs to develop activities and use up-to-date technologies in production of their products, and determining the price and guarantee of agricultural products and inputs by the government in order to eliminate brokers and holding exhibitions for direct supply of inputs and agricultural products periodically across the province
Defensive strategies (WT)	The need for formulating effective laws and establishing an appraisal and control system of the production and distribution of agricultural products

they can promote and contribute to the development of the agricultural sector and the production of commodities with the appropriate use of natural, human and technological resources in addition to increasing economic growth, quality of payment, and a step towards improving producer conditions, increasing consumer satisfaction and, in general, raising the level of social and cultural welfare of the community. Thus, this research was an attempt to identify the weaknesses, strengths, opportunities, and threats of entrepreneurial activities as an appropriate step towards forming a strategic plan for these activities. According to the results of the study, recognition of the competitors and input and sale market (total weight of 0.051) are the most important strengths in the development of the entrepreneurial agricultural activities in Kermanshah Province. The results of interviews with people in the study also indicate that a proper relationship between entrepreneurs and their competitors and using experiences and strategies have had an important role in recognizing entrepreneurial opportunities. On the other hand, a good acknowledgment of the market and

competitors not only makes it convenient to use other experiences, but it facilitates the road for entrepreneurs. On the other hand, it causes entrepreneurs to get enough information from their competitors and their customers and by using this information, they can produce products according to the needs of customers and distinct from competitors. The entrepreneurs also learn about the weaknesses of their rivals and, with the knowledge of their rivals' weaknesses, they look for a suitable solution.

'Taking the advantage of other entrepreneurs' experiences and consultation and communication with experts' (total weight of 0.042) is considered the next strength in sustainable development of the agriculture entrepreneurs of Kermanshah. Many researchers have also pointed to the significant role of communication and information exchange, especially with the successful and experienced entrepreneurs, in several fields from start-up, management, technical and professional consultation to legal aspects in their studies.

According to the results, 'indigenous and innovative products of entrepreneurial units' (total weight of 0.033) is among the other im-

portant strengths of the entrepreneurial activities in the agricultural sector of Kermanshah Province. This is, in turn, one of the vital factors for building the required infrastructure to grow, improve competitiveness, help financing, and develop entrepreneurial activities.

Another outcomes of the study show that the used of the scientific methods and professional principles in manufacture (total weight of 0.024), skilled and motivated human force (total weight of 0.013), proper management in entrepreneurial centers of communication with customers (total weight of 0.012), entrepreneurial features of managers in entrepreneurship units (total weight of 0.006), family support from entrepreneurs (total weight of 0.005) are other important strengths in the development of entrepreneurial activities in the agricultural sector of Kermanshah Province.

In the category of weaknesses, 'the problem of production, distribution, and sale of agricultural commodities' is one of the most pivotal problems in the production cycle. Many researchers (Karimi & Bouzarjomhori, 2014) have also confirmed the role of these factors in the lack of development of entrepreneurial activities. Accordingly, making authorities adopt appropriate provisions to quickly develop entrepreneurial activities of the agricultural sector is absolutely unavoidable.

Marketing and supply weaknesses (total weight of 0.043), knowledge and skill weaknesses (total weight of 0.042) and the performance and management deficiency (total weight of 0.022) are the main weaknesses in sustainable development of entrepreneurial agriculture of Kermanshah. These are considered the main obstacles in developing entrepreneurial activities, as has been reported by several studies (Daryaei, 2012; Kiakojuuri et al., 2012) too. Thus, it is proposed that some exhibitions be held to sell these products directly and indirectly aiming to make a contact between entrepreneurs and customers and get aware of other competitor's commodities and marketing strategies. Another way to alleviate this weakness is to hold learning

workshops for marketing, product supply, and supply chain. Findings show that the most important opportunity in development of entrepreneurial agriculture in Kermanshah Province is appropriate regional opportunities (total weight of 0.111). This is mainly due to the region's potential capacity such as climate and geological conditions of Kermanshah which is known as a four-season province and its borderline with Iraq as a proper export destination. This opportunity can play an important role in the development of the agricultural sector of the province because, according to the mentioned cases, the province can produce various commodities because of its particular climate and, if so, one of the important target markets of its products can be Iraq, which, in addition to exchange earnings for the province and the country, will lead to prosperity and social welfare in the region. Information exchange among relevant people inside and outside the country (total weight of 0.103), holding workshops (total weight of 0.091), supportive organizations and rules (total weight of 0.063) and the observation of similar items of the activity area (total of weight 0.045) are considered among other opportunities to develop entrepreneurial activities in the agricultural sector of Kermanshah.

However, the most important threat is the lack of enough supports and inefficient rules of the state and organizations (total weight of 0.046). The agricultural sector's entrepreneurs in Kermanshah have enumerated the lack of necessary supports and inefficient rules of the government during their interviews regularly. (For example, to get a work license to receive production subsidies, a producer must have a factory with 12 employees, a workshop saloon and an active production line or the produced chicken should be 1800 grams to obtain a standard license and if it is less than 1800 grams it is a waste, and if it is more than 1800 grams it is non-standard). This is due to the lack of Province's Agricultural Jihad cooperation with granting land to

entrepreneurs to examine new crops, ineffectiveness and inefficiency of governmental rules, such as granting unauthorized licenses without adequate supervision to applicants for the use of facilities provided in that case (increasing the number of licenses granted for establishing a greenhouse without proper supervision of the authorities) and not paying subsidies to producers of this sector. While the cost of fuel and raw materials is paid commercially and free of charge, the products are sold at a subsidized price. In some studies, the lack of attention paid by the Tourism Organization of Javanrud to the Sefidbarg area (Moradi & Papzan, 2014; Najafi Kakavand et al., 2013), the lack of governmental funding for organic farming (Besati et al., 2013), and the lack of essential support from the related government sectors (Najafi Kakavand et al., 2013) have been enumerated as the major threats to development in the field of tourism, fish farming, organic farming, and partnerships of rainfed grains breeding, which in some way shows the lack of support required by relevant organizations in each area. Considering that these studies have been carried out in Kermanshah Province, it can be concluded that in different sectors of agriculture, entrepreneurs and activists of these sectors are not well supported. Therefore, it is necessary for the authorities to consider the needs of agricultural sector activists and producers so that they can use the financial and non-financial support of the relevant organizations to solve the problems of entrepreneurs and producers of different agricultural areas and pave the way to further development and prosperity of these areas and the agricultural sector in the province.

Support-performance deficiency (total weight of 0.044) at relevant organizations, inappropriate infrastructure (total weight of 0.039), scientific and learning problems (total weight of 0.028), and scientific-professional disability of the related organizations' staff (total weight of 0.026) are all among the main threats of the development of entrepre-

neurial activities in Kermanshah Province. Finally, strategies of the sustainable development of entrepreneurial activities in the agricultural sector of Kermanshah Province have been represented based on the results of SWOT-AHP analysis. The results show that offensive strategy or developing with total weight of 0.347 is the most important.

This strategy was developed in the form of regional markets development, and the development of entrepreneurial companies, and the providing of agricultural entrepreneurship products in the regional, national and international exhibitions. In other words, as noted, the prosperity and development of the agricultural sector of Kermanshah Province can be bolstered by exploiting its borderline with Iraq and its climate diversity, diversifying its products, developing regional markets, especially in border markets, creating entrepreneurial markets specialized in the agricultural production in different regions, especially in the border regions, and holding direct exhibitions of inputs and agricultural inputs within the province and among the provinces, and even internationally.

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