

ORIGINAL ARTICLE

## Rural entrepreneurship and sustainable development towards environmental sustainability (Central Bardaskan City area)

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The goal of establishing a sustainable entrepreneurial activity is to improve human well-being, the environment and the income of individuals. These kinds of businesses consider the ecological risks as well as the environmental pressures that can hinder the creation of new employment opportunities. Based on this study, after studying sustainability literature and sustainable entrepreneurship, the evaluation of sustainability indicators in entrepreneurial activity in the villages of Bardaskan city has been addressed. The method of research in this study in terms of purpose is applied and descriptive-analytic in terms of method. The data gathering method was a questionnaire and field visit. The statistical population of the study consisted of 22 villages with more than 100 inhabitants from the central part of Bardaskan city. Due to the limited statistical population, sampling was not performed and all villages in this section were selected as the sample population. The population of these villages in 2017 totaled 10,331 people in 3,636 households. 3745 households were selected by means of the modified Kochran formula. The data were collected through a questionnaire. The results of the Friedman test show that the components of effective factors in rural entrepreneurship development can be ranked on the rural environment indicators from the villagers' point of view because the assumption of the equality of these components with the smaller p-value is rejected from the test level of 0.05. According to the results, it can be concluded that from the viewpoint of villagers, the most effective factor affecting sustainable development was the fact that there were facilities and services for entrepreneurs, and the factor in providing needed capital and marketing was in the second place.

**Keywords:** entrepreneurship; rural entrepreneurship; rural development; sustainable development; Bardaskan

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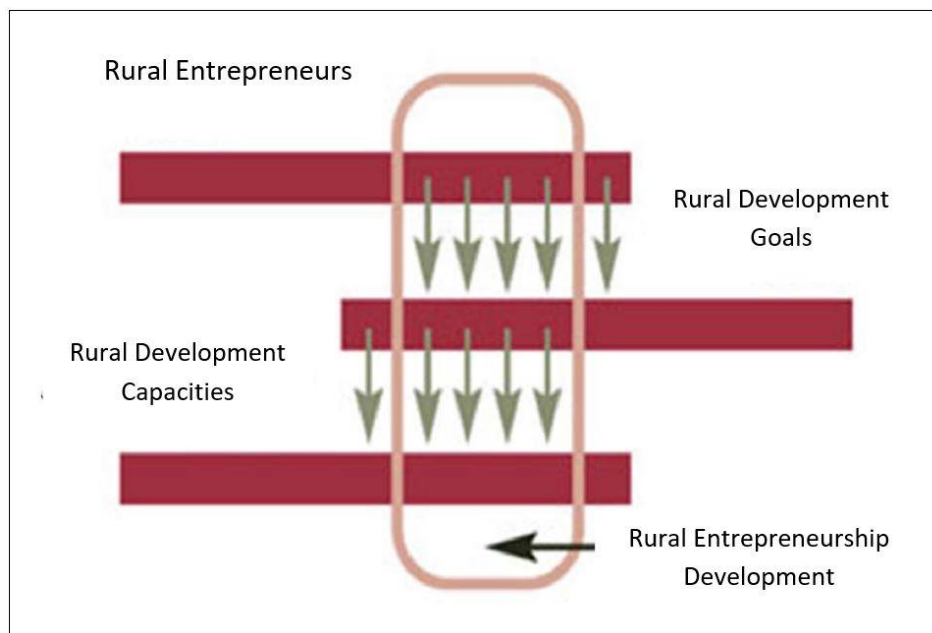
### Introduction

Sustainable development implies the management and maintenance of basic natural resources and technological and organizational changes to supply and sustain human needs in the present and future. Sustainable development consists of different sectors such as agriculture, forestry, water, genetic reserves of plants and animals that protect them through appropriate technology and without decreasing the quality of the environment (Arbioun, Zadeh, 2012).

The World Commission on Environment and Development (1987) defined sustainable development as "developing to meet the needs of the present without endangering the future generation's potential to fulfill their needs" (Rahmani, 2010). But global attention was drawn to the sustainable development of the Brundtland Commission, which initiated the debate. In defining what the Commission has given to sustainable development, sustainability is defined as living and livelihood (income) and preventing the deterioration of capital (including economic, social and ecological capital). In other sources, the term sustainability is meant to memorize, to continue to exist and to exist (not to stop or to continue) (Rezvani, 2011). In general, the concepts of sustainable development indicate that there is a strong link between human activities and the natural environment and this issue does not reduce the prospects of future production for the sake of the desirability of present life.

Although there have been various plans for rural development in developing countries, many of these countries are still struggling with poverty, and the result of many of these plans is nothing but poverty development for these countries. Rural poverty, low productivity land and labor remain in rural areas (2: 1992, Altieri), and these programs failed to reduce the low-income problems, eliminate the uneconomy of agricultural land, reduce the level of literacy and dependence on oil revenues (Langroudi and Shamsaee, 2009). In recent decades, the experiences of rural development in different countries have shown that injection of capital and technology can play a role in rural development and lead to entrepreneurship as a central force for growth. And rural economic development can realize these two factors in the rural environment (Taghibi et al., 2015). Entrepreneurs, especially agricultural entrepreneurs, can provide opportunities for the realization of their ideas by properly understanding the opportunities and taking on the stagnant capital in the village, and by organizing resources. By doing so,

they can turn environmental threats and obstacles into opportunities, and in difficult and complex conditions, such as the accelerated development of technology, globalization and multinational economics, they can discover and exploit new opportunities that will bring economic benefits for themselves and ultimately good for removing the problems of the rural community (Eftekhary, Sajasi, 2007).



**Fig. 1.** The link between entrepreneurship development and rural development. Source: Faraji Sabokbar et al., 2011.

Given the link between entrepreneurship and rural development, identifying effective factors in the development of entrepreneurship can increase the entrepreneurial and employment potential of the country's villages and accelerate the process of moving the rural community towards sustainable development.

About the changes in the situation of urbanization and rural settlement, the Iranian population has moved towards urbanization. Bardaskan city in Khorasan Razavi with a rural population of about 52% compared to the population of 28% of the rural population in the province in 2017 is one of the few provincial cities where the village is prevalent and prosperous. Therefore, the present study aims to identify the factors affecting the development of entrepreneurship in the studied villages in relation to the existing potential as well as the historical background of rural settlements in the region and to investigate its relationship with rural environment sustainability.

Accordingly, the main question of the paper is that: What are the effective factors in the development of entrepreneurship and their impact on environmental sustainability in rural areas of Bardaskan?

As rural areas in developing countries face problems such as unemployment, poverty, stagnation, isolation, low incomes, low productivity, migration, individualism, social conflict, lack of environmental resources and pollution according to David McClelland, because of the inadequate understanding of the relationship between environmental management and human capabilities, these areas suffer from the lack of creativity, innovation, and success (Hezar Jaribi, 2005).

Economic development in rural areas requires strategies that can stimulate entrepreneurship development, effective institutions and empowerment of environmental policies. As rural economy is significantly related to agricultural activities, almost all economic activities in rural areas are directly or indirectly related to agriculture, forestry and other natural resources in arts. Therefore, there is a need for increased inter-sectorial communication between agriculture and agricultural businesses as well as non-agricultural economic activities. As a result, the development of villages in comparison with the past has found a wider connection with the concept of entrepreneurship. At present, institutions and individuals who are interested in rural development consider entrepreneurship as an interventionist mode of development that can accelerate the development of villages (Morid et al., 2011). In this way, the necessity of promoting entrepreneurship in villages is also considered, so that development agencies consider rural entrepreneurs as potential for creating vast job opportunities; politicians consider it as the key to preventing rural turmoil, farmers consider it as a tool for improving agricultural revenues; and women consider it as an opportunity to work in the vicinity of their home, which makes them independent and free and reduces their strong need for community support. Of course, for all these groups, creating entrepreneurship and employment is a means to improve the quality of life of individuals, families and communities whose outcome leads to the creation of a healthy environment and economy (Pasban, 2004).

#### **Research purposes:**

The main objectives considered in this paper are:

- Study of the status of effective factors in rural entrepreneurship in the studied villages.
- Providing appropriate strategies to build or strengthen sustainable development indicators.
- Investigating the relationship and influence of factors involved in rural entrepreneurship on sustainable rural development with emphasis on the environment of villages in the study area.

**Research hypotheses:**

Based on the objectives of the research and according to the problem and its theoretical framework, the hypotheses of this research are as follows:

1. It seems that economic factors (supply of capital and marketing) have the most impact on the development of rural entrepreneurship in Bardaskan.
2. There seems to be a significant relationship between the factors affecting entrepreneurship and sustainable rural development in the villages of Bardaskan.

Ebrahimi et al. (2013) indicate that employment and entrepreneurship are one of the main factors in the stability and sustainability of villages and entrepreneurship can create new opportunities for villagers to increase their income and capital. In this article, entrepreneurship is important from two dimensions: creation of employment and production (economic entrepreneurship) and development of services (social entrepreneurship) for rural society and rural management. The results of this research show that the components of psychology with variables of perseverance, risk appetite, creativity, etc. are among the most important variables affecting the development of rural entrepreneurship. The study found that the problem of entrepreneurship development in rural areas is the development of entrepreneurship infrastructure, such as investment in opportunities, access to facilities and marketing. Given that most rural entrepreneurs lack university education, the paper proposes the creation and establishment of a systematic entrepreneurial development system from basic education to higher education.

Farahani and Alvandi (2018) introduce rural entrepreneurship as the central element of the environment / economy. The above-mentioned paper focuses on the lack of attention to various dimensions of development, the main factor in the long-term challenges of territorial geography, the most important of which is the destruction of the environment and the destruction of many lagoons and pollution of the river, seas and bays. Given the backwardness and widespread unemployment of the present, there is no possibility of renewed economic growth in favor of wetlands and seas and the environment. In this paper, the authors attempt to bring together the rural environment and networking entrepreneurship, bringing together capacities and facilities as well as environmental constraints.

Its main purpose is visionary and theoretical conceptualization to understand and comprehend the favorable and common ground of these two issues for sustainable rural development.

Dean and McMullen (2007) explain how entrepreneurship can help solve global environmental problems. The authors contend that environmental degradation is the result of a market failure, while entrepreneurship literature argues that opportunities are inherent in the failure of the market. The above article outlines a concept of sustainable entrepreneurship and how entrepreneurship activities impact market barriers by discovering, evaluating and exploiting opportunities in the market failure to contribute to the effective use of environmental resources and the development of a sustainable ecological economy and environmental entrepreneurs. According to the authors, environmental entrepreneurs reduce the market-related failure of the environment by discovering, evaluating, and exploiting the opportunities offered by market failures.

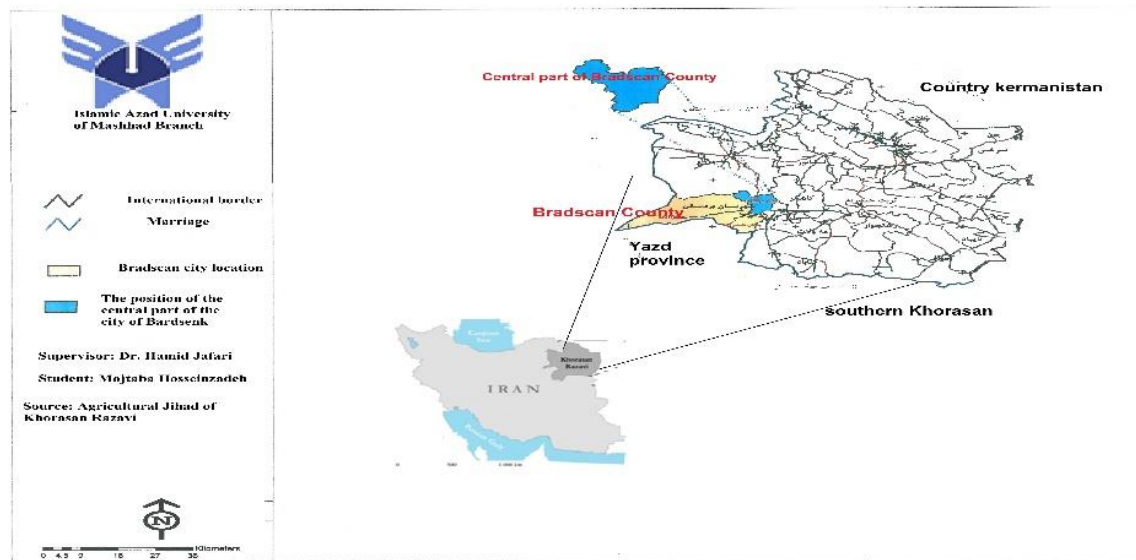
Oslo et al. (2015) have been interconnected between entrepreneurship and the environment. This article describes nature as one of the factors of production, which has been overused because of overproducing. This paper introduces the green entrepreneurship considering the process of industrialization, degradation of nature and climate change. The survey found that 15% of the research in Turkey is in the field of green entrepreneurship and in relation to the environment. The research results indicate that financial exclusion is a prerequisite for regional development organizations for entrepreneurship.

Irwin et al. (2010) had conducted a comprehensive review of the economic literature on rural and regional economic issues over the last 100 years in rural United States. In this research, issues such as rural economic diversification, population decline, increasing rural dependence and rural growth have been addressed and solutions have been proposed for each of these issues with the participation of economists in agriculture.

**Methods**

Bardaskan is in the southwest of Khorasan Razavi province, 270 km from the capital city of Mashhad. The city consists of 3 parts called Anabad, Shahr Abad and Markazi. Markazi section is in the northeast of the city with the central part of the city of Bardaskan. The approximate area of this part of the city is about 1061 km<sup>2</sup>, which is about 12% of the total area of the city (Agricultural Jihad of Khorasan Razavi, 2017). The "Markazi" section in 2017 has two villages called Kenarshahr in the center of Shafi Abad and Koohpayeh to the center of Kaboodan and a total of 149 villages.

20 of these villages belong to Kenarshahr Village and 129 of them belong to Koohpaye Village. According to the Population and Housing Census of 2017 in the Central part of Bardaskan, 38,605 people lived in the predominantly 12,273 families, 36.6% of whom were resided in the rural areas of the central part of the city (Statistics Center of Iran, Results of Population and Housing Census of 2017).



**Fig. 2.** Study area. Source: Agricultural Jihad of Khorasan Razavi, 2007

The present study is a descriptive-analytical method with a case study approach in terms of purpose. The statistical population of the study consisted of 22 villages with more than 100 inhabitants from the central part of Bardaskan city. Due to the limited statistical population (the number of villages above 100 people), sampling was not performed and all villages in this part were considered as the statistical population. The population of these 22 villages in 2017 consisted of 3,636 households. Using the Cochran formula, 374 heads of households were randomly selected so that the principle of equal opportunity was fulfilled to complete the questionnaire. Validity of the questionnaire was confirmed by Delphi technique and its reliability was confirmed by Cronbach's alpha coefficient.

**Table 1.** Cronbach's alpha coefficient of The main dimensions of the questionnaire. Source: Research findings, 2018

Questionnaire's headings	Coefficient obtained
Sustainable rural development	85%
Entrepreneurial factors      Provision of required capital and marketing	76%

Finally, the collected data were analyzed in a SPSS software environment using a sample sign test and variables were prioritized and evaluated by Friedman test.

From the 1970s, with the criticism and theoretical and practical challenges against conventional rehabilitation culture from different social groups such as affiliation, contradiction, postmodernism, feminism and social constructivists, the context for rural development was presented as a sustainable rural development approach. In addition, another major contributor to the broad plan for sustainable rural development and the abandonment of conventional rural development issues was its historic extension to the general discussion of environmentalism and sustainable development;

These two theoretical areas formed a paradigm for sustainable rural development, which emphasizes the internal, indigenous and people-centered mechanisms (Vosuqi and Imani, 2010). It can be said that rural sustainability is aimed at balancing the equilibrium between the activities and needs of rural people and protecting local and environmental systems. As a result, sustainable rural development can be considered as a process that emphasizes the comprehensive promotion of rural life by forging and encouraging activities that are consistent with the capabilities and environmental bottlenecks (Saeidi, 1998). Unlike in the past, rural development is based on a holistic approach and a system that embraces fundamental dimensions, forms the rural development system, and is a balanced link between them (Taheri et al., 2009).

According to available literature, rural sustainability has three main pillars: 1. Ecological or environmental sustainability. 2. Economic sustainability. 3. Social sustainability. Based on the research objectives, ecological sustainability has been explored briefly

### Ecological sustainability

This dimension refers to the totality of components and elements that exist in the ecosystem and provide the facility for activity and production. Ecological sustainability means maintaining basic resources at levels that do not discourage future powers, or it means maintaining or enhancing the capacity, quality and flexibility of the ecosystem. Environmental experts focus more on this dimension of development and are concerned about the limitations that human activities have on the environment. They are worried about preserving what economists call natural capital, and they understand the condition of the life of any living creature on earth is dependent on the initial production of plants. In their view, nature is the largest and most invaluable treasure (Hesam et al., 2015)

## Rural Entrepreneurship and its Role in Sustainable Development

Given the dynamic and changing nature of rural communities, it is very difficult to provide a uniform and identical definition of rural entrepreneurship that is rigorous and consistent in all circumstances for rural areas (Movahedi and Farani, 2012). Rural entrepreneurship is the creation of a business with the benefit of local opportunities, along with innovation, endeavor and perseverance, and the acceptance of financial, psychological, social risk, with various motivations such as success, independence, personal satisfaction and profitability (Abadi and Andadeh, 2008). Peterich provides a more complete, yet more comprehensive that fits rural development domains conceptually, in three phases of rural entrepreneurship. He states that rural entrepreneurship is not fundamentally different from entrepreneurship in the city, except that it should be conceived in the rural environment. Rural entrepreneurship can be defined by the following three indicators:

- A. A force that mobilizes other resources to respond to a market-driven demand.
- B. Ability to create and make something from nothing
- C. The process of creating value through the mixing of a single set of resources to take advantage of an opportunity

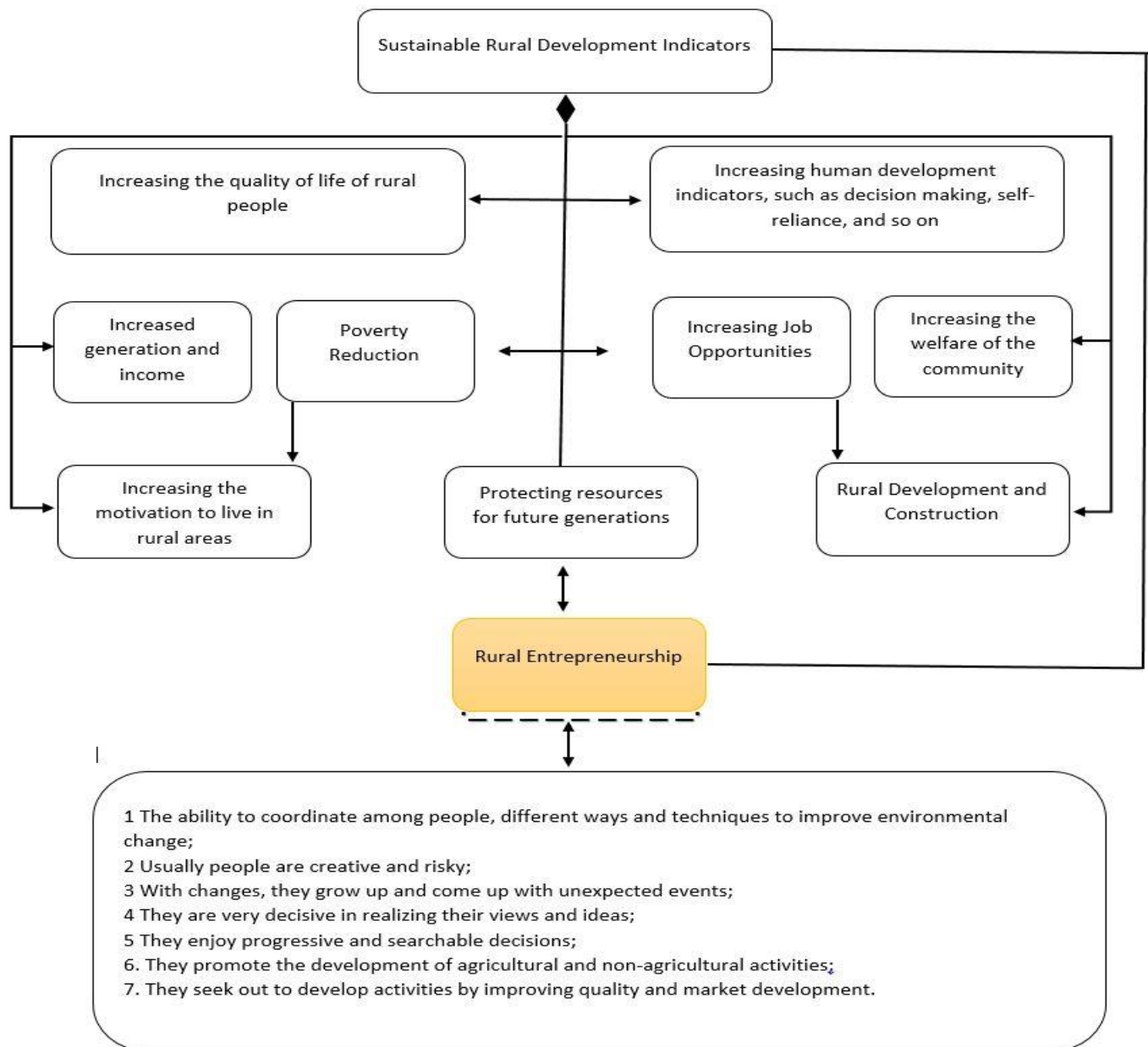
What can be used for the definition and concept of rural entrepreneurship is the innovative use of rural resources and facilities for hunting business opportunities. Such a definition of entrepreneurship, which is presented by Peterich, is related to any kind of structure of the production factors and leads to innovative technologies. (Kayakjori et al., 2012; Movahedi and Farani, 2012). Most rural development experts consider the main reasons for rural problems to be low productivity, lack of capital and resources, unemployment and incomplete employment, migration, poverty and penury. Therefore, given that entrepreneurs in the community are driving dynamism and increasing productivity, they increase the value of the work in the community and increase the spirit of effort and effort in the society.

Entrepreneurs encourage the community to become creative and entrepreneurial, and this leads to the growth and development of the community. When entrepreneurship is accepted as a lifestyle by many people in a community, that society is developing very rapidly (Hosseini and Kavousi, 2004). Therefore, with the development of entrepreneurship and the creation of small entrepreneurship, villagers will achieve their goods and services, which will have a great impact on the economic growth of the villages and the decline of the urban migration phenomenon. Villages, like cities, are fraught with new and unexplored opportunities that finding and exploiting these opportunities in a timely manner and creating new and competitive businesses based on it can bring significant economic benefits to the villagers. Advanced industrial countries could quickly discover the role of entrepreneurs in economic development and seek to develop and promote such a culture among economic managers (Akbari, 2006). Therefore, entrepreneurship is one of the most important sources of economic growth and development in rural areas. By examining the rural entrepreneurship model, entrepreneurs are considered as an economic stimulus in rural areas and are supported by policymakers, government and local people, the private sector, and non-governmental organizations. In this model, there are ten components for the development of entrepreneurship in rural areas that can be categorized in general terms in three sections: 1. Institutional and organizational elements, 2. Elements relating to infrastructure, services and facilities, 3. Elements related to participation, communication and learning (Movahedi and Farani, 2012). One of the other implications of the development of entrepreneurship is the change in the environment. The global environment is changing, and rural areas are also affected by the mismanagement of natural resources. Suitable environmental practices such as the use of pesticides and organic fertilizers can help protect the environment (Brijesh and Chavda, 2013).

### Factors Influencing Sustainable Rural Entrepreneurship Development:

Rural areas, due to special ecological and socioeconomic conditions, face a variety of problems and issues that poverty and unemployment are among the most important ones (Rezvani and Najarzadeh, 2008: 164). Although these problems affect the economic, social and even political sectors of countries, the creation of new job opportunities in rural areas is of importance. In addition to the high unemployment rates in the villages, the other major problem is the migration of villagers to cities, especially to large cities, which has many negative consequences in terms of environmental and security. In this regard, creating entrepreneurial spirit among villagers, including farmers, can be considered as the most important way of rural development (Kurd and Abtin, 2012). Rural entrepreneurship can be of great help as a basic and parallel approach to rural development goals.

Encouragement of rural entrepreneurs can be a practical and appropriate solution for rural development purposes, that is, to create meaningful employment, increase incomes and subsidies, and self-reliance on villagers (Sidayee, 2013). The importance of entrepreneurship in rural development comes from the fact that an entrepreneur can identify the opportunities and problems that exists to devise new ways to grow and develop. Thus, entrepreneurship can play an important role in rural development by creating employment, improving the quality of life, and appropriate distribution of income and optimal utilization of resources (Kurd and Abtin, 2012). With the development of entrepreneurship and the creation of small entrepreneur companies, villagers will achieve their goods and services, which has a major impact on rural economic growth and the phenomenon of migration to cities. Also, villages like towns are fraught with new and untapped opportunities, which will bring significant economic benefits to the villagers through the timely discovery and exploitation of these opportunities and the creation of new and competitive businesses based on it.

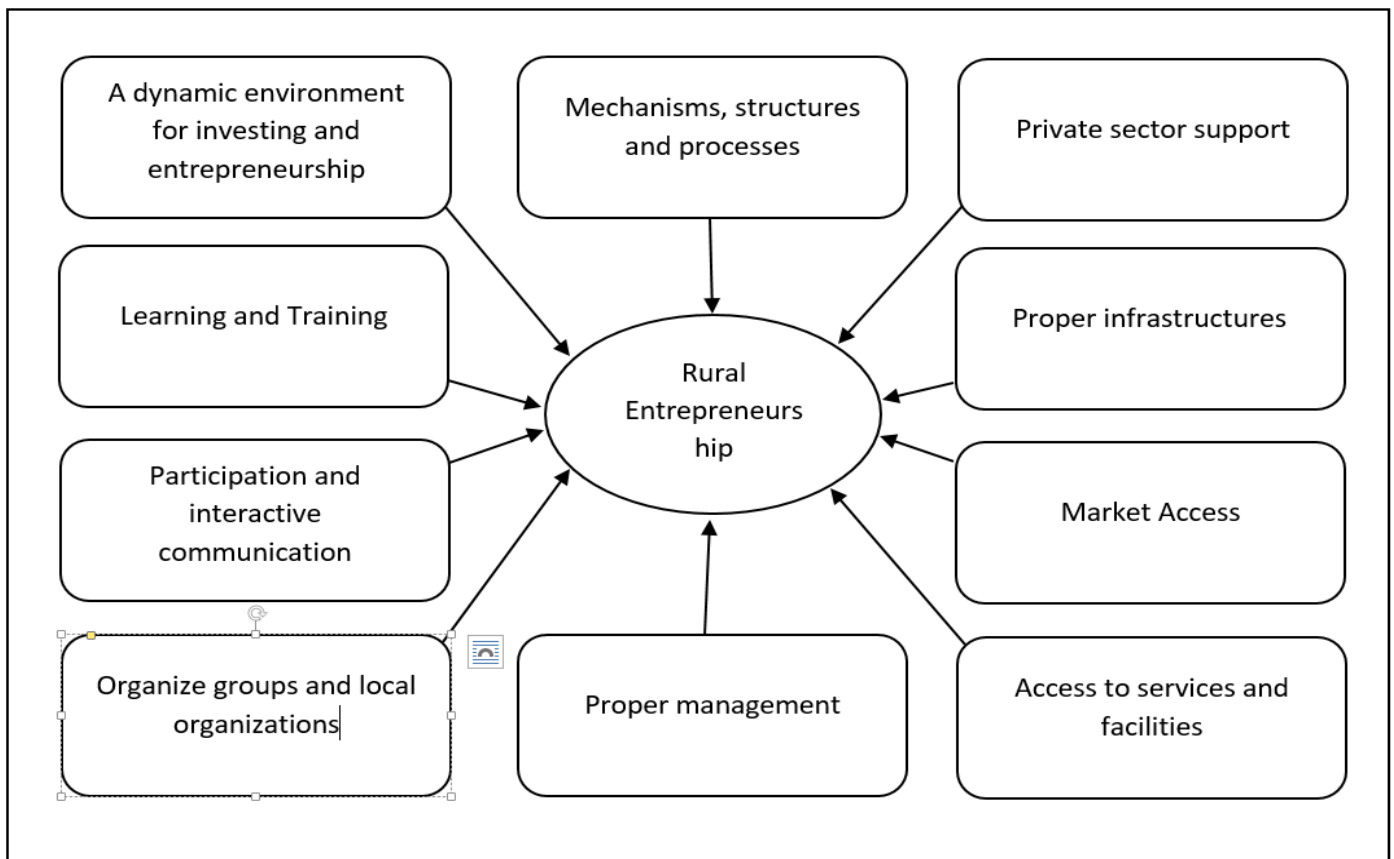


**Fig. 3.** The Role of Entrepreneurship in Sustainable Rural Development. Source: Roknoddin Eftekhari and Sajasi Chedari, 2010

Advanced Industrial countries could quickly discover the role of entrepreneurs in economic development and seek to develop and promote such a culture among economic managers. Understanding this issue from different countries has led to increasing the number of institutions and organizations supporting entrepreneurship and training entrepreneurial skills every day (Eftekhari, Chedari, 2010). From Alison's point of view, an entrepreneurial activity is affected by a variety of factors such as individual attributes and motives, education, traditions and customs, laws, policies and technical knowledge that can have different effects on the behavioral, economic, social and other patterns. Also, from the point of view of Lord Kippanidze, rural entrepreneurship development depends on cultural, social, environmental and infrastructural, economic and institutional factors (Kani et al., 2014).

Other factors that promote the development and expansion of entrepreneurship in rural areas can be pointed out as: 1) Creating environments and areas of pre-entrepreneurialism or "capacity building"; 2) Creating self-reliance or "empowerment"; and 3) Stimulating growth through motility. Based on the above definitions, it can be said that in the development of entrepreneurship, there are several factors that can be divided into two general groups: 1. Individual factors and 2. Environmental factors (Velaee et al., 2014).

Rural development is largely dependent on entrepreneurship as a central force for economic growth and development. Undoubtedly, if a rural area is to take a growing path for development, and all stages and steps of it are to be progressed swiftly, then all the national and local facilities of that region must be mobilized. In this case, all the benefits and blessings can be gained by spending the least and on a wider scale. As rural development is not only achieved through the provision of public infrastructure and social facilities, rural entrepreneurship development also requires various factors and infrastructures. In villages, there are naturally unknown capacities to launch entrepreneurial activities, which can help to develop entrepreneurship by identifying them. These capacities and factors are presented as rural entrepreneurship implications in the below figure (Sidayee & Sadeghi, 2014).



**Fig. 4.** Effective Factors in the Development of Rural Entrepreneurship in Rural Areas. Source: (Movahedi and Farani, 2013; Eftekhari and Sajasi, 2010, quoted by JTZ, 2003).

#### Study of research findings:

As indicated in the research methodology section, to identify the effective factors in the development of entrepreneurship in rural areas of the central part of Bardaskan city, the variables including 1) provision of required capital and marketing, 2) existence of infrastructure facilities and services, and 3) sustainable development, in the form of 40 items were used (Table 2).

**Table 2.** Introduction of Research Indicators and Components. Source: Research findings, 2018

Indicator	Components or items
Provision of required capital and marketing	Providing new financial resources among rural youth, strengthening and improving the financial conditions of the villagers, rural financial situation, easy access to the market, the ability of the village to attract domestic and foreign capital, encouraging local investment, direct and intermediary communication between entrepreneurs and the market, establishment of financial and credit institutions, appropriate marketing for local production
Existence of infrastructure facilities and services	The availability of appropriate sub-bases and infrastructure (electricity, water, telephone, etc.), creating rural entrepreneurial settlements, the availability of appropriate technology infrastructure in the village (such as IT and ICT), appropriate communication paths, the availability of appropriate communication facilities such as telephone and the internet
Sustainable Rural Development (Environment)	The use of new energies (solar, etc) in housing and manufacturing activities, assistance in expanding green space in the countryside, non-utilization of agricultural land in manufacturing and housing infrastructure, the use of modern facilities in the modernization of traditional steams, the financing of garbage collection, the pursuit of the provision of waste collection facilities in the village, the proper disposal of sanitary wastewater from production and housing activities, the implementation of environmental regulations in the establishment of production and housing activities, the recycling of the production of pesticides, such as the production of compost

### The Effect of Economic Factors on Entrepreneurship Development:

Regarding the variable of the capital supply and marketing indicator, research findings in this field showed that strengthening the financial conditions of the villagers, with a mean of 4.78 and a standard deviation of 0.55, and, after that, directly and indirectly connecting the entrepreneur to the sales market, with a mean of 4.69 and a standard deviation of 0.72, have the greatest impact on entrepreneurship development. Also, the internal and external investor absorption variable with a mean of 4.3 and standard deviations of 0.99 have the least effect on entrepreneurship development. Among the variables of the existence of infrastructure facilities and services, the role of infrastructure (water, electricity, etc.), with a mean of 4.87 and a standard deviation of 0.51, and the creation of entrepreneurial companies in the village, with a mean of 4.84 and a standard deviation of 0.51, had the most impact on entrepreneurship development. In the meantime, the least impact is on communication facilities such as telephones with a mean of 4.45 and a standard deviation of 1.18.

According to the results of the research the mean of the variables of the role of the supply of capital and marketing in the development of rural entrepreneurship is 4.60, with a standard deviation of 0.46 and a median of 4.67 (Table 3). Also, the significance level of the test sign of a sample is equal to 0.0001 and less than 0.05. Therefore, the hypothesis has been accepted that the provision of needed capital and marketing has been effective in developing rural entrepreneurship.

The mean of the impact of the existence of infrastructure and services on rural entrepreneurship development is 4.14 with a standard deviation of 0.63 and a median of 5. Also, the significance level of the test sign of a sample is equal to 0.0001 and less than 0.05. Therefore, we reject the zero hypothesis and accept the opposite assumption that the existence of infrastructure and services is the most effective factor in the development of rural entrepreneurship. So, the hypothesis was also confirmed.

**Table 3.** Testing research hypotheses based on the test sign of a sample. Source: Research findings, 2018

Factors	Mean	Standard deviation	Median	Less Than Median	Equal to Median	More Than Median	Meaningful Level
The role of providing needed capital and marketing in the development of rural entrepreneurship	4.59	0.46	4.67	5	0	342	0.0001
The Role of Existence of Infrastructure Facilities and Services in the Development of Rural Entrepreneurship	4.68	0.63	5	7	17	323	0.0001

After confirming the hypothesis that the indicators were effective, on the development of entrepreneurship in rural areas, using Friedman test, the difference and prioritizing the factors affecting the development of rural entrepreneurship were determined. Based on the results, it was found that there is a high priority among the factors affecting entrepreneurship development (Table 4).

**Table 4.** Friedman Test priority of effective factors on the development of rural entrepreneurship. Source: Research findings, 2013

Row	circumstantial evidence	value
1	Kidouy Friedman	91.193
2	Degrees of Freedom	3
3	Meaningful Level	0.0001

Also, based on the results obtained from the evaluation of entrepreneurship factors among the identified factors that affect entrepreneurship development, the availability of facilities and services with the mean of 2.94 is in the priority and the provision of required capital and marketing with the mean of 2.22 is in the second priority.

### The Impact of Entrepreneurship on Sustainable Development:

Table 5 shows the results of the impact of entrepreneurial factors on sustainable rural development. The following results were obtained from the Sustainable Development Indicator, which was comprised of 8 items. The item to pursue the provision of waste collection facilities in the village, with the mean of 3.9, and the financing of waste collection, with the mean of 3.5, have the greatest impact, and the item of the use of new energies (solar, etc.) in housing and manufacturing, with the mean of 1.67, and help in expanding green space in the village, with the mean of 2.38 have the lowest impact.



**Table 5.** Frequency Distribution and Mean of Impact of Entrepreneurship Factors on Sustainable Development. Source: Research findings, 2013

row	items	None	Low	Medium	Much	Very Much	Average score
1	The use of new energies (solar, ...) in housing and manufacturing activities	44.8	44.4	9.6	1.2	-	1.67
2	Helping to expand the greenery in the village	14	50.4	30	5.2	0.4	2.38
3	Non-use of agricultural land in manufacturing and housing infrastructure	3.4	20	22.8	11.2	11.6	2.76
4	The use of modern facilities in the modernization of traditional rivers	24.8	26	23.2	17.2	8.8	2.59
5	Donation in garbage collection	2.8	18.4	28	27.2	23.6	3.5
6	Tracking supply of waste collection facilities in the village	6	7.2	17.6	30	39.2	3.89
7	Proper disposal of sanitary sewage associated with production and housing activities	8.8	34.4	28.4	17.6	10.8	2.87
8	Implementation of environmental regulations in the establishment of production and housing activities	14.4	36.8	28.8	14.4	5.6	2.6
Sustainable Development Score (x±SD)		3.3±0.07					

Based on the data of the above table, in the sustainable development component, the greatest influence of entrepreneur factors on the pursuit of rural waste collection facilities was obtained ( $x = 89/89$ ) from the perspective of the subjects. Also, the use of modern facilities in the modernization of traditional rivers ( $x=2.59$ ) is ranked second.

Based on the data of the above table, the subjects have considered entrepreneurship effective on sustainable development of the village.

In total, in the sustainability component, in all cases, the average score (3.07) and the number 3 were higher than the one-sample T test. Therefore, the hypothesis of research with low credibility is confirmed, that is, the development of entrepreneurship has been effective in improving the sustainable development of villagers in Bardaskan.

## Conclusion

Enhancing entrepreneurship in rural environments results in the optimal use of existing resources as well as providing the basis for the growth, prosperity and sustainability of rural living places. It is because entrepreneurship increases the willingness to live in rural areas by providing adequate and suitable income for individuals, creating employment grounds, etc. Entrepreneurship can also attract foreign capital and human resources in the rural environment and strengthen the national and regional development bases. Today, with the changes that have been made in the concept of rural development, most researchers consider rural development as a multi-dimensional process whose goal is to improve the quality of life of rural residents.

Based on the results of 94.8% of respondents, strengthening the financial conditions of villagers is a significant factor affecting the development of entrepreneurship in rural areas. Also, 92.8% of respondents believe that appropriate marketing for products can be effective in developing entrepreneurship. In this regard, lending with interest and the appropriate repayment period can strengthen the financial conditions of the villagers.

In addition, providing easy conditions for the sale of agricultural products and guaranteeing the purchase of products by public and private entities can be effective in the development of entrepreneurship. The establishment of small warehouses and cold stores in villages, especially the village of Kenarshahr, due to the mass production of grapes at a specific time, will result in the production of employment at the time of the establishment of the cold store and the provision of the product at reasonable prices in different seasons for the villagers. Identifying target markets, especially in cities of Mashhad, Tehran and Birjand, will be useful in developing entrepreneurship in the region, given that most sample villages are on the way to these centers.

Based on the results, 94% of respondents have considered the existence of infrastructures, and 93% have regarded the availability of appropriate communication channels and 89.6% have viewed useful to technological infrastructure useful in entrepreneurship development. Due to the proximity of sample villages to the city center and the location of most of these settlements along the main roads of the province and the country, it is possible to establish various centers, such as recreational and residential centers between roads, providing technical services to vehicles, etc. to strengthen and develop rural entrepreneurship. Also, due to the lack of quality of communication between villages, improving the quality of these communication channels increased the interaction of villagers and led to the development of entrepreneurship. Although most

village centers have phones and the Internet, unfortunately, the coverage of these services is poor. With the strengthening of telecommunication rigs, it is possible to facilitate the communication of villagers with the outside world, which could be useful for introducing villagers to new farming practices, new businesses, and so on.

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