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Address: Faculty of Letters & Humanities Ferdowsi University Campus Azadi Sq. Mashhad-Iran

Post code: 9177948883 Tel: (+98 51) 38806724 Fax: (+98 51) 38796840
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Original Article

The Role of Climatic Factors on the Health of Rural Settlements in Iran

Rahmatollah Bahrami [1*]

1- Assistant Prof. in Geography and Rural Planning, Payame Noor University, Tehran, Iran

Abstract

Purpose- Health is one of the main axes of sustainable development and has a main role in flourishing and improving the quality of life. Housing, as an important factor can have a direct impact on human health. The purpose of this study is to investigate the climatic elements on rural housing and their impact on the health of villagers.

Design/methodology/approach- This research is a descriptive cross-sectional study of the housing health status of 1150 households in 2020 which was done by a library research method (statistical data of Sarvabad city health center) and a field study method (interview and questionnaire). The studied index of climatic factors includes four elements of radiation, heat, humidity and wind, which have the greatest impact on the housing of villagers.

Finding- Field surveys in Pirshalyar district showed that more than 67% of mountainous settlements are south-west. 23% of other settlements are located in the north, east and west. Sunlight illuminates only 20 to 25 percent of the home space. Villagers usually thicken the walls to withstand the temperature (heat and cold). Also, it was shown that the average diameter of dry walls is between 100 and 75 cm. The results showed that 89% of the first-floor residential units are wet and damp. Wind flow in some seasons causes the spread of germs and parasites in the villages.

Keywords- Housing, Climate, Health, Village, Oraman Takht, Kurdistan.

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Corresponding Author:
Bahrami, Rahmatollah, Ph.D.
Address: Department of Geography, Faculty of social Sciences, University of Payame Noor, Tehran, Iran
Tel: +989188732944
E-Mail: r.bahrami@pnu.ac.ir

1. Introduction

Health is one of the main axes of sustainable development and part has a main role in (Bahrami, 2018). Maintaining and promoting the health of the community is a prerequisite for initiatives in economic and social planning. For years, housing has been recognized as one of the important factors that can have a direct impact on human health (1). Epidemiological studies show a high correlation between housing status and its health effects on human health. Housing is a shelter to facilitate a better life of human beings and guarantee human physical and mental health. More than half of human life is spent in housing (2). Obviously, abandonment of the principles of housing hygiene causes some irreparable consequences. According to the WHO, every year a large number of people and more than 3 million children die due to unfavorable environmental conditions(3). Use and interact with climatic elements in construction and architecture is influential for housing health.

Rural settlements in Iran have been formed according to the requirements of environmental conditions. Iran's geographical position is a bridge between Europe and Asia (Eurasia). For this reason, it has always been invaded by foreigners throughout history. In the past, most Iranians lived in villages and mountainous areas were considered as a safe place away from the reach of enemies, so the construction of rural housing was more affected by human factors (security) and less attention was paid to comfort. Kurdistan Province is no exception to this situation. Due to the border position of Kurdistan Province, rural settlements have been formed in the foothills or at the bottom of mountain valleys in a stepped manner. According to 2016 census, 28% of the total population of this province live in villages (www.amar.org.ir, 2016).

Since rural settlements in Oraman are located uneven, high altitude and cold and dry climate and in mountains and foothills biological limitations are created. Lack of space to build housing has given rise to a dense and stepped texture. Other ensuing problems are the lack of sunlight for lighting and heat gain, infiltration of precipitation in the direction of the slope and its transfer into rural housing and more importantly human coexistence with livestock and poultry, respiratory and gastrointestinal diseases, osteoarthritis. Therefore, paying attention to the climatic indicators of housing is important in the design and architecture of rural housing. The aim of this study is to investigate the rural settlements of Oramanat in relation to the effects of climatic factors on the health and well-being of local residents. The main question of the research is how much attention has been paid to the health of housing in Oraman Villages of Sarvabad County of Kurdistan Province according to the climatic criteria in Oraman villages?

2. Research Theoretical Literature

Housing is the smallest form of physical embodiment of the relationship between man and the environment (Zanganeh, 2015). Rural housing, unlike urban housing, is not only a place for family members to rest and live, but also can be a place for the coexistence of humans and animals based on the type of economic function (Bahrami:2015). The World Health Organization in the setting standards for healthy housing considers climate the most important indicators (http:// www. environmentalhealth. ir).

The U.S. Housing Health Committee made a list of 12 housing defects. Not to be evaluated as a uninhabitable accommodation, a housing unit should not exceed more than four of these shortcomings. One of the cases is the lack of access to sufficient light (Didier, 2010).

As stated by Opoko, the fundamental function of buildings is the protection of man from the unsuitable weather, Ogunsote, continues that knowing about the nature is essential in design to maintain the comfort in buildings. In his views, six major factors exist that affect thermal comfort: (i) air temperature, (ii) the mean radiant temperature, (iii) the air velocity, (iv) the relative humidity, (v) the intrinsic clothing, and (vi) level of activity (Agboola, 2011).

Various models have been designed by climatologists for climatic comfort, including the Mahani, Giuni, Evans models. Alijani (1997) believes that among the climatic elements, temperature and humidity have a greater effect on human health and comfort. Kasmaei (2013) stated that human comfort conditions are a set of conditions that are suitable for at least 80% of people in terms of temperature regime. Hooshvar (1986) believes that the most effective factor in regulating the ecological circle is sunlight. Regardless of its heat and light, sunlight has direct

effects on human activities, including the construction, texture and architectural style of housing. Ghobadian (1993) believes that housing design based on climatic factors is the most important factor in increasing the comfort and health of the housing environment.

In recent years, various methods and models have been developed to identify and the degree of impact of climatic elements on the human body. The Oleg model provided a bioclimatic diagram in the 1960s. He performed calculations in four different climatic regions of the United States and concluded that the capacity requirements and thermal resistance of the regions were not the same. In the same decade, Giuni introduced the bioclimatic diagram (Safaepoor, et al., 2013).

Investigating the role of climate and environment in shaping the structure of rural housing in Fars province, Movahed & Fattahi **(**2013) concluded that the old rural housing units were built aligned with the climatic and environmental characteristics of the region**.** Darban & Salehi (2020) in their paper entitled "climate-based architecture study in residential houses in Kashan" found that the use of environmental conditions to create comfort inside the building was an aim in design goals and each of the building components is almost compatible with climatic conditions. Analyzing the role of climatic factors in the formation of rural texture and housing in temperate and humid climate of Diva Babol village, Ghorbani (2017) concluded that the old residential units have been designed compatible with the climatic conditions, and in the new residential units, the emphasis is on climatic factors.

In their paper entitled "climate change: Impact on the environmental design of buildings", Pretlove & Oreszczyn (1999) indicated that the temperature and solar radiation in the London region had changed significantly during 15 years and the climatic data which are applied for energy design calculations experience inaccuracies in predictions of energy use. Gupta & Nathani (2016) in their study titled "climatic elements & their impact on building design" concluded that climate is a key factor for architecture designing, and controlling climate takes a lot of parameters. The final outcome after applying the climate parameters is quite different than normal architectural design. In fact, in architectural designing, architects have to consider all the parameters together to achieve sustainable energy efficient and green building.

Oraman Takht village is considered as one of the mountainous and touristic areas of Kurdistan province. No studies have been conducted on the effects of geographical factors in this area, especially the effect of climatic elements on the texture of rural settlements. In the present study, the effect of climatic factors on rural settlements in terms of health and wellness was investigated.

3. Research Methodology

The research is an applied study and in terms of method is descriptive-analytical method which investigated the housing health status of Oraman villages in accordance with climatic indicators. The statistical population includes 7 villages of Pirshalyar Rural District in Sarvabad County with 1150 households and 518 residential units. 220 residential units were selected by Cochran's method. The research was prepared in the period of 2020-2021.

In this study, four climatic indicators that have the greatest impact on the internal and external texture of buildings have been selected. As shown in Table 1, it includes sunlight, heat, humidity and wind. The selection method is based on the results of previous studies by researchers and the World Health Organization. Since rural areas do not have climatic synoptic stations, two stations in the surrounding areas, Kamyaran and Marivan, were used to determine the effects of climatic elements over a period of 10 years.

In preparing the items of the questionnaire in, the views of 6 professors of with a focus on climatology and public health and housing in Kurdistan University were utilized and its reliability was obtained with Cronbach's alpha coefficient 0.72.

Table 1. Climatic elements and related items
(Source: Chang-Richards, et al., 2018; Jaakkola, et al., 2014; Ormandy & Ezratty, 2012; Kasmaei, 2013; https://www.ncbi.nlm.nih.gov/books/NBK535293/)

Wind	Humidity	Tempretur	Radiation and light
The role of wind in cooling the texture inside the building	Ways of moisture penetration into the texture of the building	The role of solar heat in building heating	Sunlight coverage on the surface of the rooms
The role of housing design against wind burns	The role of moisture in the spread of germs and diseases	Texture and design of the building against heat	Position in the direction of light and radiation
			Common diseases in mountainous areas

Table 2. Number of villages in Pirshalyar-Sarvabad district
Source: Statistical Yearbook: 2018

Village name	Number of households	Number of residential units	Village name	Number of households	Number of residential units
Belbar	165	199	Absabad	16	17
Selen	206	200	Kalji	62	74
Ghevar	328	360	Nav	164	185
Neven	213	199			

3.1 Geographical Scope of the Research

Sarvabad County with an area of 1002 square kilometers located in Kurdistan Province, western Iran. which borders Iraq from the west. It has a border with Iraq form the west. The area is placed from 46 ° 4 ‘to 46 ° 43 ' east longitude and 35 ° and 3‘ to 35 ° and 25 ‘ north latitude. The county is limited from the north to Marivan County, from the east to Sanandaj County and from the south to Kamyaran County. The capital of this county is Sarvabad city, which is located at an altitude of 1270 meters above sea level, and 80 km from Sanandaj (Statistics Center of Iran, 2016). Figure 1 shows the geographical location of the study.

Horaman is a completely uneven environment in terms of topography. the range of heights fluctuates from 800 meters to more than 2000 meters above sea level. Figure 2 shows the natural geographical location of Horaman

.

Figure 1: shows the location of Sarvabad County

Figure 2: shows the natural geography of Horaman-Google Earth

4. Research Findings

4. 1. Location of rural settlements

Statistical findings show that more than 40% of rural settlements in Sarvabad County have a southern position, 26% have a northern position, 23% have an eastern position and less than 10% have a western position (4). Field surveys in Pirshalyar Rural District showed that more than 67% of mountainous settlements are south-west, and 23% of other settlements are located in the north, east and west. See Figure 3.

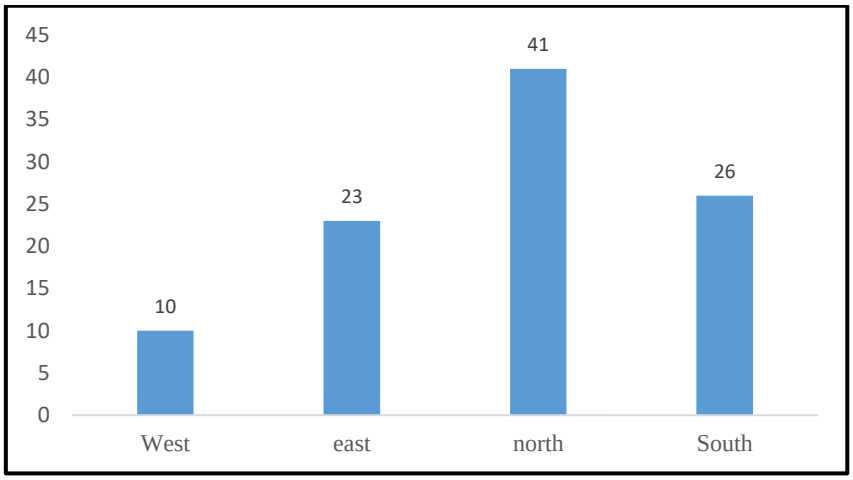


Figure 3: Location of rural settlements in Sarvabad Couny

4.2 The role of sunlight

Sun and sky are main sources of the light. A sufficient amount light is vital for health and comfort in buildings. Southern exposure to the light is ideal for most living spaces, as it brings in the most light and does not vary much over the course of the day (5). Moreover, daylight influences humans' welfare, health, primarily stimulates and controls circadian rhythms, improves the immune systems, activities of inner and visual organs (6).The sunlight is considered by occupants as an important factor of well-being in indoor environment of habitable rooms. Basically, the direction of rural settlements in the mountainous areas of Oraman is towards south or south-west to maximize the sunlight intake.

In mountainous areas, the intensity of sunlight is high with a wide range of waves are in a wide range, although ultraviolet and infrared rays are

emitted more than other rays (7) . Villagers react to their environment by using checkered and long design for their house windows to prevent the intensity of sunlight. This is a special pattern when the sunlight has different waves. The long form of the windows causes the sunlight to illuminate and warm the internal texture of the building at dawn as shown in Figure 4.

Despite of having benefits, traditional architecture has some drawbacks. The width of the windows is between 110 and 150 cm, which makes it impossible to keep more than 35% of the rooms bright and warm. Low sunlight, in turn, leads to the spread of diseases such as tuberculosis, rheumatism, and disorders in the vision, body, and joints of the villagers. Field studies conducted through a questionnaire showed that more than 75% of middle-aged and elderly people suffer from joint pain and 24% of women and girls have vision problems. Among 288 residential units, 87% of rural windows are oriented to the south and only 13% of the windows are towards the west and some to the east. There are usually two windows for two rooms. The area of the rooms were at minimum 4 * 3 and maximum 5 * 3 meters. Due to the lattice pattern of the windows and their narrow width, the sunlight illuminates only 20 to 25 percent of the house space. In other words, Residential rooms need lighting such as lamps, from three in the afternoon. The corridors often need lamps.

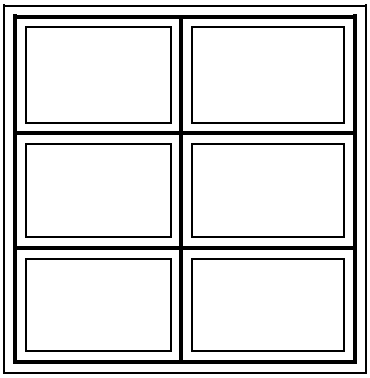


Figure 4: The form and texture of windows in mountainous areas

One of the characteristics of the texture of the settlements in Horaman, is having dry walls and using for the roof of the buildings. Because of the 15 per cent albedo of the clay, the structure is warmed up late and loses the temperature late (8). In other words, their heat capacity is high. These conditions cause a balance of temperature inside the building space. The horizontal roof surface of the houses is used as a resting place and/or a yard for dwellers in summer due to the mountain breeze to the valley, as shown in figure 5.

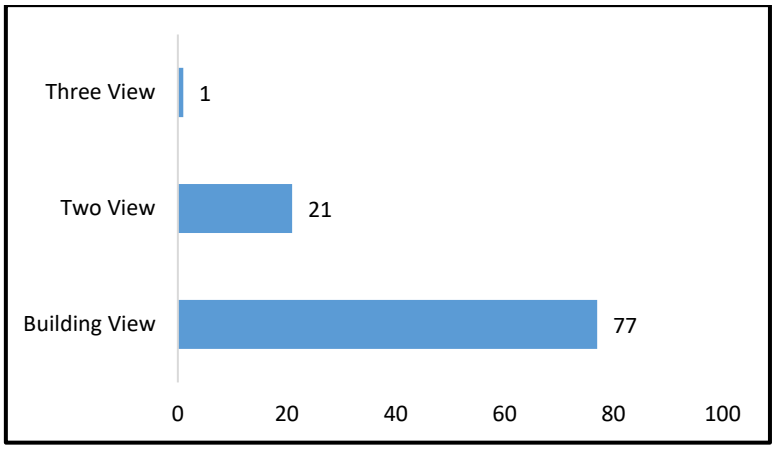


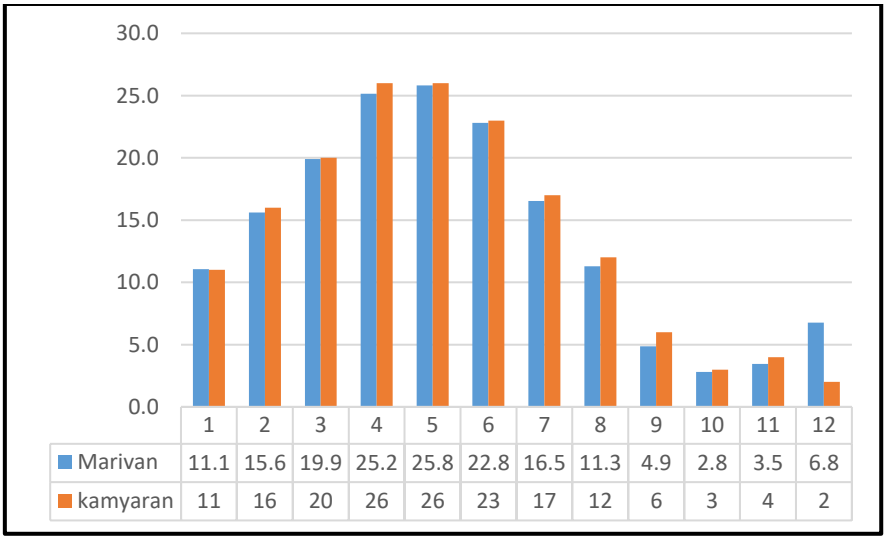
Figure 5: Number of residential units in terms of number of facades in percentage

4.3. Temperature

Temperature is one of the most important indicators in determining human comfort and convenience in a residential space, because heat is directly related to the efficiency of human physical and physiological activities. Thus, the heat does not only affect the physiological structure of humans, but also their functions such as housing (9). The quantity of temperature affects both the exterior texture of the dwellings (materials, dense texture, wall diameter, etc.) and the interior space of the building in terms of design and form. Statistical findings showed that the average temperature in two stations close to the study area. For Marivan, the average temperature is 12.8 ° C, the maximum temperature is 35.4 ° C and the minimum is 4-6 ° C. For Kamyaran, the average temperature is 13.5 ° C, the maximum is 36.6 and the minimum is -5.5 (10).

The findings showed that the materials used in Oramanat rural housing (Horaman) are in fact from local and indigenous substances such as carcass stone, which are often laid down on top of each other without the use of mortar. Villagers usually thicken the walls to withstand the weather (cold and heat). Field studies showed that the average diameter of dry walls is between 100 and 75 cm. One of the reasons for this situation can be due to increasing the thermal capacity of the texture inside the building. However, the thermal capacity of materials depends not only on the material, but also on their specific gravity (11). The temperature fluctuation of the interior surfaces of the building depends on the exterior surfaces or the capacity and the thermal resistance of the wall materials. Due to the rough topography of the study area, the high diameter of the walls has caused that the space inside the building is limited and the number of rooms does not exceed two. Because of the mountainous location of the villages, snow is the prevailing type of the precipitation. As the temperature increases, snow gradually melts and penetrates into the ground and passes in the direction of the slope of the ground, which is in line with the texture of the buildings. This make moisture penetrate the internal texture of buildings and rooms. In these conditions, with increasing temperature, the volume of humidity also increases, and consequently, human health is physiologically and respiratory threatened (Figure 6).

One of the natural ways to deal with climate change is to design summer and winter living rooms. The winter living room is chosen above the barn (where livestock and poultry are kept), because the animals keep the roof of the rooms warm with the heat (biogas) they produce. Conversely, a summer room above a livestock feed depot usually keeps the floor cool.



	1	2	3	4	5	6	7	8	9	10	11	12
Marivan	11.1	15.6	19.9	25.2	25.8	22.8	16.5	11.3	4.9	2.8	3.5	6.8
kamyaran	11	16	20	26	26	23	17	12	6	3	4	2

Figure 6: Average temperature over a ten-year period in Marivan and Kamyaran.

4.4 Humidity

Relative humidity is another climatic element that is directly related to temperature, precipitation and wind fluctuations. Relative humidity indicates the degree of saturation and precipitation power. Relative humidity along with air temperature are effective elements in human comfort and climate-based design (12). The results showed that the highest relative humidity is in the cold months of the year. The lowest percentage of relative humidity is in July, when 45% of the relative humidity of Kamyaran station is below 50%, and the highest level is in January, when the humidity is above 70%. But in Marivan station, the average minimum relative humidity is 51% in July and the highest is in January, when the humidity is above 80%.

The importance of studying the relative humidity in the residential texture of stepped villages is due to the fact that rainfall such as snow and rain moved in the direction of the slope. In other words, rainwater and snowmelt due to heights in the floor of residential buildings moved in the direction of the slope. It affects a residential movement. In general, moisture enters the residential space in various ways and causes adverse effect on health the buildings. Ways of moisture penetration into the building were as follows:

-Infiltration of moisture (rain, snowmelt) from the floor of the building

-Infiltration of moisture (rain) from the roof

- Moisture penetration from the side walls.

4.1.1 Moisture penetration from the floor to the ceiling

Basically, the flat roof design of mountain dwellings is composed of clay. In winter, rainwater turns into ice and during the day the ice melts, which creates some holes on the roof where clay is lesser. In this way, water and moisture passes through the roof and reaches to wooden beams and boards with a diameter of 2 cm. They absorb infiltrating water and swell up. Throughout the year the pressure due to expansion is associated with the bursting of the side walls, which causes the loss of adhesion of mud and soil around the beams. After a few years only the stone folds of the walls can be seen. This ends up to the invasion of insects and animals that consume the beams. Insects tend to live and destroy the whole structure gradually.

4.1.2 Infiltration of moisture (rain) from the roof

Because the regime for precipitation in different mountainous areas, the falls fall obliquely and vertically to the wall surfaces made of stone and mud straw, during continuous rainfall over time provides a gradual destruction of the walls. In mountainous areas, the direction of droplets is angled or straight when it rains. During the rain seasons, the hatch and stones on the walls are washed up and slowly get destroyed. The destruction is aggravated by changes in temperature. Rural dwelling stones are calcareous. The combination of freezing ice at night and melting the ice during the day increases dissolution and permeability of moisture, which causes the spoilage of gypsum and soil in the walls, and increases the danger of breakdown.

4.1.3. Infiltration of rainwater and snow through the floor of the building

Since rural settlements are formed in the direction of the slope and in a regular and vertical staircase, rainwater and snow flow penetrate the ground and reach the foundations of the building, and then, soak up the walls with moisture. This situation brings about:

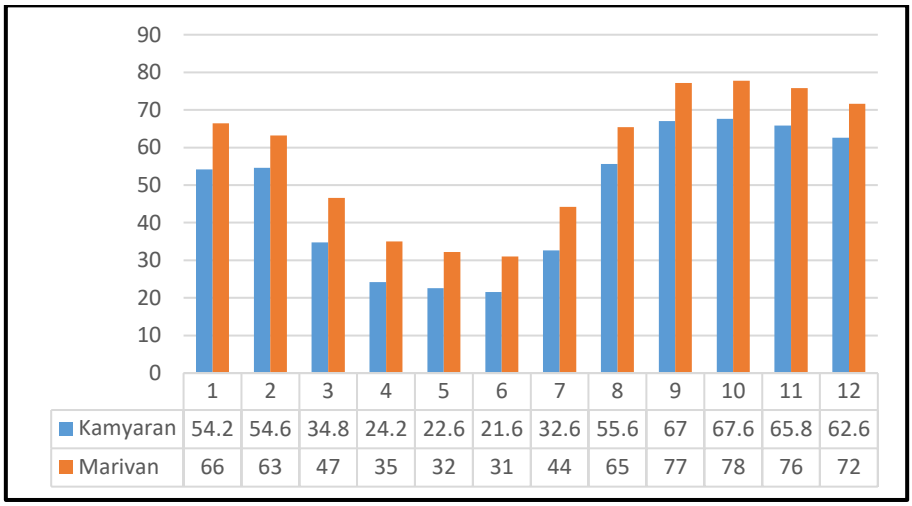
-The relative humidity increases to a considerable extent**.**

-increasing the temperature inside the building

- Existence of high humidity causes the growth of bacteria, animals and vermin.

- Significant humidity inside the living space accelerates the spoilage of dairy products**.**

- High humidity combined with rising temperature and lack of sunlight in the seasons (summer and winter) leads to diseases such as tuberculosis, rheumatism, joint and muscle disorders, dizziness and shortness of breath. See Figure7.

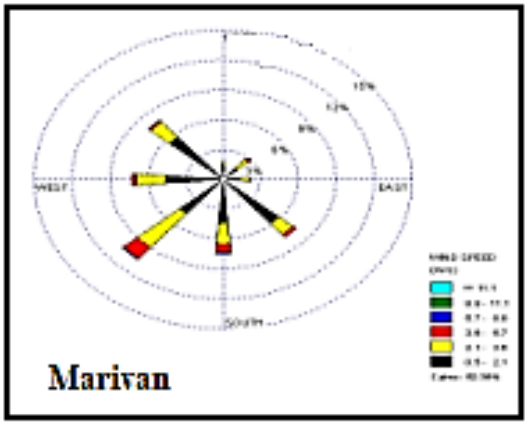


	1	2	3	4	5	6	7	8	9	10	11	12
Kamyaran	54.2	54.6	34.8	24.2	22.6	21.6	32.6	55.6	67	67.6	65.8	62.6
Marivan	66	63	47	35	32	31	44	65	77	78	76	72

Figure 7: Average ten-year wet period in Kamyaran and Marivan stations

4.1.4 Wind

Among all the environmental factors that affect architecture, the wind has the greatest influence on architectural shapes, more precisely, the wind flow is greatly dependent on the shape of architecture (13). This is the case in Oramanat rural settlements. The results showed that two types of winds with two different directions have affected the study area. One of these winds is called Zalan or dry wind from the northwest to the southwest, the second is Shah Mal wind, a wet wind which move from the west of the country (the Mediterranean) to the east of the country. The results of field studies showed that most of the villages are located in the southwest, which is about 15 degrees from the west. This location is chosen to turn the settlements towards dry and scorching winds that are directed from the northwest to the south. On the other hand, the southwest position of the houses is somewhat inclined to the Mediterranean winds that are rainy. Another effect of wind flow is related to the location of rural settlements in mountainous areas. Mountain villages have a local wind flow that is the same as mountain to valley breeze and valley to mountain during the day and night. Since the livelihood of these villages is livestock, livestock waste is dumped into the rivers by the villagers. When the local winds breeze and the temperature is high in summer, a stench of animal waste blows in the village. This will lead to the spread of germs and fungi and ultimately increases the incidence of diseases and the overall mortality rate. The results showed that in Oraman villages, seasonal rivers that pass through the middle of the village have no concrete cover. See Figure 8.



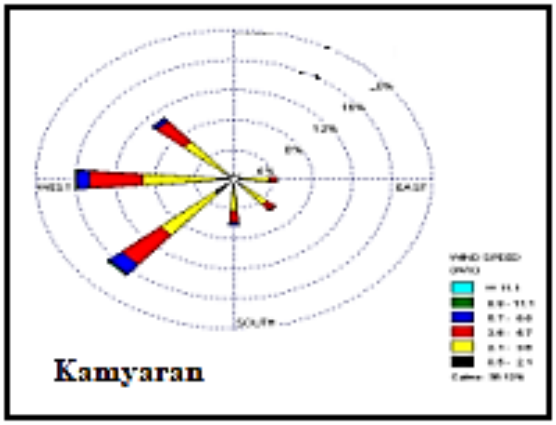


Figure 8: Golbad diagram in two synoptic and climatological stations of Marivan and Kamyaran

5. Discussion and conclusion

Housing as one of the biological needs of human beings plays an essential role in the survival and life expectancy of its inhabitants (14). Field surveys in Pirshalyar Rural District in Oramat, Sarvabad County in Kurdistan Province, showed that the high rate of rural population growth and limited space for construction have led to the migration of rural youth to other urban areas. According to the results of official statistics, about 54.4% of the rural housing area in Sarvabad County is less than 100 meters. There is also a shortage in supply of housing in the study area (Bahrami, 2018). The results showed that sunlight illuminates 20 to 25% of the residential space. The temperature in summer and deposit of animals' waste into the river bring about a condition for the growth of bacteria and germs., Due to the local breeze of mountain to valley and valley to mountain during the day and night, respiratory and gastrointestinal diseases are spread. The local people were dissatisfied with this situation and stated that it led to more migration from the villages. In terms of humidity, that the findings indicated that the first floor of the units are mostly wet because of snowmelt and rain penetration that flows in the direction of the slope. In terms of wind flow, even though the flow is balanced during the seasons, the statistical evidence of stations close to the study area indicates that the weather is hot in summer and dry and scorching in winter due to the low altitude of villages above sea level.

Finally, the lack of space for the inhabitants on the one hand and the coexistence of humans with livestock and poultry over a period of several years, lack of light and heat in the living space and hot winds in the mountainous areas of Oramanat have led to the spread of diseases such as tuberculosis, rheumatism, joint disorders, osteoarthritis, respiratory failure, heart disease, etc. According to the Sarvabad Health Network, over the past decade, the number of tuberculosis patients was more than 30, more than 48% of the people who are 49 or more has been diagnosed with osteoarthritis. Furthermore, more than 12% of rural residents suffers from rheumatism and 6% of them have respiratory disorders and 4% have experienced common human-animal diseases (malaria).

In the last two decades, after the development of communication network and application of durable materials into the rural space, there has been a change in the architecture and design of rural housing. However, because of the rough nature, they did not improve the health of rural residents. In general, the housing health situation in this area is not optimal and some measures and programs need to be implemented by health officials. On the other hand, government technical and regulatory agencies should monitor the construction of new rural housing to prevent physical and mental illness caused by poor housing

The villages of Pirshalyar Rural District were built in mountainous areas due to historical and security conditions. Rural housing in the study area was a safe environment to survive from the invasions of the enemies, which was the main reason of settlement other than well-being. The results also showed that the texture and construction of rural housing in this part of Kurdistan lacks the necessary architectural standards, including; sunlight, heat, humidity and wind. Several factors have contributed to the spread of diseases such as tuberculosis, malaria, respiratory and vascular disorders, joint disorders and osteoarthritis. These factors are: human coexistence with livestock and poultry, lack of air conditioning in the interior of rural settlements, high humidity and inappropriate method of burying animal waste in rural areas. These factors, in turn, have reduced life expectancy. Therefore, the need to design housing compatible with climatic elements is essential for the sustainability of rural settlements in the study area. The results of the above studies are consistent with the results of Sepahi, et al., (2015) in the terms of poor housing, Fallah et al., (2010) about existence of common human and animal diseases, Darula et al., (2015) in terms of sunlight and its effects, Straube (2002) regarding the negative effects of humidity, Golpayegani, et al., (2013) in the matter of the shortage of health services, Aktan Aktu (2014) concerning the air conditioning.

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Authors' contributions

The authors equally contributed to the preparation of this article.

Conflict of interest

The author declare no conflict of interest.

References

1. Aktu, E. Ö. (2014). Wind ventilation in the built environment. WIT Transactions on Ecology and the Environment, 190, 749-761. https://www.witpress.com/Secure/elibrary/papers/EQ14/EQ14070FU2.pdf
2. Agboola, O.P. (2011). importance of climate to architectural designs in Nigeria. *Journal of Environmental Issues and Agriculture in Developing Countries*, 3(1), 15-28. http://www.icidr.org/jeiadc_vol3no1/Importance%20of%20Climate%20to%20Architectural%20Designs%20in%20Nigeria.pdf
3. Alijani, B. (1994). Anew Approch to the Application of climate in the Development Iran and its Resources" the role of climate in building designing. *Journal Geographical Researches*, (35), 45-61[In Persian]. http://ensani.ir/fa/article/233260
4. Bahrami, R. (2018). Evaluation of a healthy village with emphasis on sustainable housing indicators (Case study of rural areas of Kurdistan province). *Journal of Physical Development Planning*, 12, 113-126. [In Persian] Dio: 10.30473/psp.2019.5657. http://journals.pnu.ac.ir/article_5657.html
5. Bahrami, R. (2015). The health indicators of housing in the rural areas of Kurdistan province, Iran. *Journal of Advances in Environmental Health Research*, 9, 1-10. [In Persian] https://www.sid.ir/fa/journal/ViewPaper.aspx?id=257287
6. Darban, A. & Salehi, S.S. (2020). Climate-based architecture study in residential houses in Kashan. *Architectural Quarterly, 3*(14), 1-7. [In Persian] https://civilica.com/doc/1441212
7. Pretlove, S. E. C., & Oreszczyn, T. (1998). Climate change: impact on the environmental design of buildings. *Building Services Engineering Research and Technology*, *19*(1), 55-58.
8. Darula, S., Christoffersen, J., & Malikova, M. (2015). Sunlight and insolation of building interiors. *Energy Procedia*, *78*, 1245-1250. https://doi.org/10.1016/j.egypro.2015.11.266
9. Didier Thevenard PhD, P. (2010). Updating the ASHRAE climatic data for design and standards. *ASHRAE Transactions*, *116*, 444. https://www.proquest.com/openview/ed2011ded41cbf85c07b6847d26b6331/1?pq-origsite=gscholar&cbl=34619.
11. Fallah, M., Matini, M., Beygomkia, E., & Mobedi, I. (2010). Study of Zoonotic Tissue Parasites (Hydatid Cyst, Fasciola, Dicrocoelium and Sarcocystis) in Hamadan Abattoir. *Avicenna J Clin Med*, 17 (3), 5-12. http://sjh.umsha.ac.ir/article-1-260-fa.pdf.
12. Golpayegani A., Khanjani N., & Zeidabadi, A. (2013). Rural Housing Project and Its Impact on Housing Health and Safety Indicators. *Housing and Rural Environment Index*, 144, 58 49. file:///C:/Users/PC/AppData/Local/Temp/110000139214404.pdf
13. Ormandy, D., & Ezratty, V. (2012). Health and thermal comfort: From WHO guidance to housing strategies. *Energy Policy*, *49*, 116-121. https://doi.org/10.1016/j.enpol.2011.09.003
14. Ghorbani F.H. (2017) Investigation of the role of climatic factors in the formation of rural texture and housing in temperate and humid climate of Diva Babol village. *Iranian Conference on Islamic and Historical Architecture and Urban Planning Research*. [In Persian] https://www.sid.ir/fa/seminar/ViewPaper.aspx?ID=91210.
15. Gupta, S.K., & Arun, N. (2016). *Climatic Elements & Their Impact on Building Design*. International Journal of Science and Research (IJSR) DOI:10.21275/v5i5.28051601
16. Ghobadian, V. (1993). *A Study of the Climate of Traditional Iranian Buildings*. Tehran Publications. https://www.adinehbook.com/gp/product/9640338737
17. Hooshvar, Z. (1986). *Introduction to Medical Geography of Iran*. Tehran: Publisher of Jihad Daneshgahi. [In Persian] https://www.gisoom.com/book/145397.
18. Jaakkola, J.K., Amegah A., & Kofi, E. (2014). *Climate change, housing and public health*, 260-267. DOI: 10.1079/9781780642659.0260.
19. Kasmaei, M. (2013) *Climate and architecture, Khak Publications* (5th ed.). Book code in Gisum: 1978376, Tehran. [In Persian] www.gisoom.com/book/1978376.

20. Movahed, K., & Fattahi, K. (2013). A Study of the Role of Climate and Environment in Forming the Rural Housing Structure of Fars Province. *Journal of Rural Housing and Environment*, 141, 50-37. [In Persian] http://jhre.ir/article-1-260-fa.html
21. Chang-Richards, A., Kevin, I., Wang, K., Fakhruddin, B., & Ho, E. S. (2018). *Climate, Housing and Health Profiling: Promoting housing quality to improve health and wellbeing*. University of Auckland= Te Whare Wānanga o Tāmaki Makaurau, Public Policy Institute= Te Whare Marea Tātari Kaupapa. https://apo.org.au/node/218141
22. Safaepoor, M., Shabankari, M., & Taghvai, T. (2013). The Effective Bioclimatic Indices on Evaluating Human. *Geography and Environmental Planning Journal*, *50*(2), 47-52. [In Persian]
23. Sepahi, M., Sadati, D., Esmaielzadeh, R., & Teymori, Y. (2015). Epidemiological study of Crimean fever in Konko in Saravan. *National Conference on Joint Diseases of humans and animals, March 5*. [In Persian] https://www.sid.ir/fa/seminar/ViewPaper.aspx?ID=74240.
24. Straube, J. (2002). Moisture in buildings. *ASHRAE journal*, *44*(1), 15-19. https://www.researchgate.net/publication/271706272
25. Statistics Center of Iran. (2016). *Sarvabad Population Census 2016*. [In Persian]. www.amar.org.ir
26. Zanganeh, M. (2015). Spatial Analysis of Housing Situation in Mashhad Metropolis with Emphasis on Sustainable Urban Development Indicators. *Urban and Regional Studies and Research*, *7*, 137-154. [In Persian] https://www.sid.ir/fa/journal/ViewPaper.aspx?id=281658

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Original Article

نقش عوامل اقلیمی بر سلامت سکونتگاه‌های روستایی ایران

رحمت الله بهرامی*[1]

۱- استادیار گروه جغرافیا و برنامه‌ریزی روستایی، دانشگاه پیام نور .تهران، ایران.

چکیده مبسوط

۱. مقدمه

سلامت یکی از محورهای ا صلی تو سعه پایدار و بخش لاینفک آن برای شکوفایی و ارتقای کیفیت زندگی ا ست. حفظ و ارتقای سطح سلامت جامعه؛ لازمه هر حرکت و اقدام در برنامه‌ریزی اقتصادی و اجتماعی محسوب می شود. از سال‌ها پیش، مسکن به‌عنوان یکی از عوامل مهمی شناخته‌شده است که می‌تواند بر سلامت بشر اثر مستقیم بگذارد. مسکن عبارت است محلی به‌عنوان سرپناه برای ادامه حیات بهتر انسان مورداستفاده قرار می‌گیرد و دارای امکانات و تسهیلاتی است که سلامت جسمی و روانی انسان را تضمین می‌کند. بیش از نیمی از عمر انسان در مسکن سپری می‌گردد. یکی از عواملی که م ستقیماً بر سلامت م سکن تأثیر می‌گذارد نقش عوامل اقلیمی است.

در این پژوهش چهار عامل اقلیمی تابش و حرارت، رطوبت ، باد بیش از سایر عناصر اقلیمی بر طراحی و معماری مسکن تأثیرگذار می‌با شند. درگذ شته ساخت مسکن رو ستایی بنا به اقتضای شرایط امنیتی آن زمان طراحی و بنا شده‌اند. غالب رو ستاهای اورامان تخت بنا به موقعیت اکولوژیکی آن‌ها کوهستانی و کوهپایه‌ای بوده ازاین‌رو بافت سکونتگاه‌ها کوچک ، متراکم و پلکانی شکل است. کمبود فضا توأم با شرایط نامطلوب اقلیمی در طراحی م سکن ب ستر سلامتی و تندر ستی ساکنان رو ستایی را تهدید کرده ا ست. پژوهش با هدف بررسی سکونتگاه‌های روستایی اورامانات در ارتباط با شرایط سلامتی و تندرستی موردمطالعه قرار می‌دهد. سؤال اساسی پژوهش این است که روستاهای اورامان تابعه شهرستان سروآباد استان کردستان تا چه اندازه به سلامت بهدا شت م سکن با توجه به معیارهای اقلیمی در روستاهای اورامان توجه شده است؟

۲. مبانی نظری تحقیق

مسکن کوچک‌ترین شکل تجسم فیزیکی رابطه انسان و محیط است. مسکن روستایی برخلاف مسکن شهری، نه‌تنها مکانی برای استراحت و سکونت اعضای خانواده است، بلکه با توجه به نوع کارکرد اقتصادی، از همزیستی انسان و حیوان برخوردار است . سازمان جهانی بهداشت استانداردهایی را برای مسکن سالم تعیین می‌کند که مهم‌ترین آن‌ها شاخص‌های آب و هوایی است.کمیته بهداشت مسکن ایالات‌متحده ۱۲ نقص مسکن را فهرست می‌کند که اگر هر واحد مسکونی بیش از ۴ مورد از این مشکلات را داشته باشد، غیرقابل سکونت تلقی می شود و باعث بیماری‌های روحی و ج سمی می‌شود. یکی از ۴ مورد، عدم دسترسی به نور کافی است.اگوبلا معتقد است: شش عامل برآسایش حرارتی مسکن تأثیر می‌گذارد:۱- دمای هوا ۲- دمای تابشی ۳- سرعت هوا ۴- رطوبت نسبی ۵- لباس ۶- سطح فعالیت. علیجانی براین باورا ست که از میان عنا صر اقلیمی دما و رطوبت بیشترین تأثیر بر سلامت انسان دارند. هو شور معتقد است تابش نور خورشید بیشترین تأثیر بر بافت مسکن دارد.ک سمایی معتقد ا ست شرایط آ سایش ان سان را مجموعه‌ای از شرایطی رژیم دمایی مناسب می‌داند.

۳. روش‌شناسی پژوهش

در این مطالعه توصیفی-مقطعی وضعیت بهداشت مسکن ۱۱۵۰ خانوار در سال ۱۴۰۰- ۱۳۹۹موردبررسی کتابخانه‌ای(مرکز بهداشت شهرستان سروآباد) و روش میدانی(مصاحبه و پرسشنامه) انجام‌گرفته است. شاخص موردمطالعه شامل چهارعنصر اقلیمی شامل تابش، حرارت، رطوبت و باد که در آن ۹ گویه مشخص شده که بیشترین تأثیر را در بافت بیرونی و درونی سکونتگاه‌های روستایی

*. نویسندهٔ مسئول:
دکتر رحمت الله بهرامی
آدرس: گروه جغرافیا، دانشکده علوم اجتماعی دانشگاه پیام نور.تهران ایران.
پست الکترونیکی: Email: Rahmat.bahrami1342@gmail.com

دارند موردمطالعه قرارگرفته است. در تهیه سؤالات پرسشنامه ازنظر محتوایی، از دیدگاه ۶ نفر از اساتید جغرافیا با گرایش اقلیم‌شناسی و اساتید بهداشت عمومی و مسکن دانشگاه علوم پزشکی کردستان استفاده شد و پایایی آن با استفاده از ضریب آلفای کرونباخ ۰/۷۲ به دست آمد. نحوه انتخاب بر اساس نتایج مطالعات محققین و سازمان بهداشت جهانی،کسمایی و.. است.

۴. یافته‌های تحقیق

از نظر موقعیت اکولوژیکی بررسی‌های آماری نشان می‌دهد که بیش از ۴۰ در صد از سکونتگاه‌های روستایی شهرستان سروآباد دارای موقعیت جنوبی،۲۶ درصد دارای موقعیت شمالی، ۲۳درصد دارای موقعیت شرقی و کمتر از ۱۰ در صد دارای موقعیت غربی می‌باشند. در زمینه تابش بررسی‌های میدانی در دهستان پیرشالیار هورامان نشان داد که بیش از ۶۷در صد از سکونتگاه‌های کوهستانی دارای موقعیت جنوب متمایل به غربی است. ۲۳درصد از دیگر سکونتگاه‌ها دارای موقعیت شمالی، شرقی و غربی می‌باشند. از نظر تابش نور و حرارت این مناطق دارای پنجره‌های کوچک و مشبک می‌باشند. نور خورشید به دلیل بافت مشبک پنجره‌ها و عرض کم آن‌ها، زاویه تابش نور خورشید تنها ۲۰تا ۲۵ درصد از فضای خانه را روشن می‌کند. یافته‌ها در زمینه رطوبت نسبی نشان داد به دلیل موقعیت استقرار سکونتگاه‌ها و ریزش نزولات جوی در طول، موجب افزایش رطوبت در بافت درونی ساختمان‌ها و زمینه رشد باکتری و حشراتی مانند شپش، کک،و.. ایجاد می‌کند. در کل رطوبت از چند طریق وارد بافت مسکن روستایی شده و سبلمتی ساکنین روستاها را تهدید می‌کند: نفوذ رطوبت از طریق کف ساختمان.باران و ذوب برف ۲- نفوذ باران از طریق سقف ساختمان ۳- از طریق دیوارهای کناری . عامل دیگر اقلیمی جریان باد و وزش باد است. جریان باد به دو صورت بادهای خشک که در اصطلاح محلی زلان گویند و بادهای مدیترانه که غالباً باران‌زا بوده و به باد شه مال معروف‌اند.

۵. بحث و نتیجه‌گیری

نتایج نشان داد تابش نور خورشید ۲۰تا ۲۵ درصد فضای سکونتگاهی را روشن می‌کند. انتقال فضولات دامی به رودخانه موجب رشد و گسترش باکتری‌ها و میکروب‌ها و حشرات موذی شده و نسیم محلی دره به کوه در طول ایام شبانه‌روز زمینه گسترش بیماری‌های تنفسی و گوارشی را بالابرده است. نتایج میدانی نشان داد ۸۹درصد از واحدهای مسکونی اورامان طبقه اول آن‌ها مرطوب و نم‌دار است. از نظر جریان باد به دلیل وزش بادهای خشک و سوزان بافت پنجره‌ها کوچک طراحی‌شده‌اند. نهایتاً بیماری‌هایی ناشی از طراحی نامناسب اقلیمی زمینه گسترش بیماری‌هایی مانند سل، روماتیسم،ناراحتی های مفصلی، آرتروز، کم بنیایی تنفسی، ناراحتی‌های قلبی و سایر بیماری‌ها شده است. نتایج خانه بهداشت دهستان پیر شالیار نشان داد طی دهه گذشته تعداد بیماران سل بیش از ۳۰ نفر، بیش از ۴۸درصد از افرادی که در سنین ۴۹سال به بالا دارای ناراحتی آرتروز پا دارند. بیش از ۱۲درصد از ساکنین روستایی دارای روماتیسم و ۶درصد دارای ناراحتی‌های تنفسی و ۴درصد دارای بیماری‌های مشترک انسان با دام (تب مالت)هستند.

کلیدواژه‌ها: مسکن، آب‌وهوا، بهداشت، روستا، اورامان تخت، کردستان.

تشکر و قدردانی

پژوهش حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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Original Article

Unproductive Activities and Their Affecting Factors in Iran

Hassan Afrakhteh [1]*, Omid Jamshidzehi Shahbakhsh [2]

1- Full Prof. in Geography and Rural Planning, Kharazmi University, Tehran, Iran.
2- Ph.D. candidate in Geography and Rural Planning, University of Sistan and Baluchestan, Zahedan, Iran.

Abstract

Purpose- Unproductive activities refer to economic activities which do not have a positive effect on GDP, but have high profit and returns, which can eliminate productive activities. This is a phenomenon that has occurred in Iran in the last three decades. The aim of the present study is to analyze the factors causing and spreading unproductive activities using Fumanat area as the context .

Design/methodology/approach- The study area is Fumanat, one of the historical regions of Gilan. The type of research is qualitative. In order to collect the required data and information, we conducted the various steps: First, using secondary data, the study illustrated changes in the share of employment in the economic sectors of the region, changes in the area of agricultural land use, as well as changes in the level of built land use. Second, conducting interviews with different business owners of each household, the common activities of households were studied to determine the evolution of productive activities in the sample villages. The common activities of households and among them unproductive activities were identified by inductive method. In order to understand the factors affecting the creation and expansion of unproductive activities, the qualitative approach of grounded theory was used .

Findings- The study indicates that in the mountain zone, 39.1 percent of jobs, in the foothill zone, 32.3 percent of jobs, in the plain zone, 41.9 percent of jobs and in the coastal zone, 30.2 percent of jobs, can be categorized as unproductive activities. The existence of uncertainty, lack of support for productive activities, the property rights issue, inadequate privatization and dysfunctional institution system affect the expansion of unproductive activities in the region.

Originality/value- Various studies have examined productive and unproductive sides in economic endeavors, most of which considered them with a macro point of view. The present study tries to investigate the contextually of the factors underlying these changes in a rural space and community.

Keywords- Uncertainty, Property right, Dysfunctional institution system, Unproductive activities, Fumanat**.**

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Corresponding Author:
Afrakhteh, Hassan, Ph.D.
Address: Department of Geography & Rural Planning, Faculty of Geographic Sciences, Kharazmi University, Tehran, Iran
Tel: +989126437139
E-Mail: afrakhteh@khu.ac.ir

1. Introduction

Unproductive (non-productive) activity refers to activities that do not harm the process of economic growth and development if they are removed from the economic sphere. Rather, their removal helps to improve the economic stability. Such activities do not create real economic values and do not have a positive effect on GDP, despite having high income and returns. The International Labor Organization describes productive activities as endeavors that promote national economic competition. In contrast, activities that add nothing to GDP consider as unproductive activities whose growth depend on several factors in national and regional economies. After the experience of the 2008 financial crisis (Palley, 2013), industries and economic activities are assumed to be interrelated and the expansion of unproductive activities is associated with a decrease in productive activities (Ivashina & Scharfstein, 2010).

Due to the expansion of unproductive activities in the country, in 2011, almost half of the income is generated from economic activities without any actual value creation in Iranian households. This income is not from appropriate employment, but it is obtained through the purchase and sale of real estate, interest on bank accounts, the purchase and sale of gold and foreign currency and coins exchange, or other methods of trading. The rate was 49% in 2019 and now is increased to 63% in 2021, which show the unequal accumulation of capital and its socio-economic consequences.

Activities in the Iranian economy are divided into productive and unproductive ways. Productive activities have low profit and high commitment. Unproductive ones, however, are associated with high profitability and low commitment and unnecessary. These characteristics of the unproductive activities in the last decade have caused that private banks attract deposits and inject them into this means with high interest rates. From 1992 to 2014, land prices increased 10 times while the price index increased 54 times. As a result, many small businesses have turned their capital into money and deposited it in banks. Because the current interest rate in the non-productive sector (buying and selling gold coins, currency, land and housing) is not even comparable with the rate in the productive sector. In addition, the growth of unproductive activities has caused significant changes at the national and regional levels (Shakeri, 2016). Hence, the spread of unproductive activities has disrupted the country's economic activities, and has challenged the motivation to work and build constructively and create wealth in the country.

Fumanat is one of the areas with the historical background which was the center of "Biah Pas" (west of Sefidrood River). This area was located in front of "Biah Pish" (east of Sefidrood) whose center is Lahijan. Today, Fumanat region is divided into three counties: Fuman, Someh Sara and Shaft. In the past, the economic equilibrium was established in the region and each area (coast, plain, foothill and mountain) used to have its own products to involve in the local and regional transaction. Now, many of the region's traditional products e.g. hemp and sugarcane with their processing industries are eliminated; others, such as silk and tea are active in declining condition while some new economic activities are expanding. In general, the distribution system of economic activities in the region, and thus the dispersion of the population has changed. The most important consequence of this is the weakening of productive activities, inability of competitive activities against unproductive activities, unemployment and migration to the suburbs of cities in the region or the country. As a result, many problems and sometimes heavy damages were followed.

The aim of the present study is to first conceptualize unproductive activities in rural areas of Fumanat. Afterwards, the volume and dimensions of unproductive economic activities in the area are demonstrated. Finally, the underlying factors for the expansion of such activities in the region are analyzed. Therefore, we attempted to answer the basic question of what factors have led to the spread of unproductive activities in the region. Unproductive activities hinder the development of a balanced regional economy, which is one of the current economic challenges in socio-economic systems. So, the analysis of barriers and the provision of corrective solutions can justify the current research.

2. Research Theoretical Literature

Numerous studies have examined the theoretical foundations of the creation and expansion of unproductive economic activities. Most of them studied the spread of unproductive activities from a macro and ecological perspective, and have

concluded that the development of productive activities undermines economic growth and national development. A group of researchers linked the owners of unproductive economic activities to "wealth-creating and rent-seeking entrepreneurs" (BaumoL, 1996; Kirzner, 1997). Many believe that the existing and current institutional structures of society create constraints for the expansion of productive activities and at the same time provide incentives to expand non-productive activities (Henrekson & Sanandaji, 2011).

Baumol (1990) calls unproductive activity something that reduces the wealth and well-being of society. According to Kirzner (1997), productive activity increases efficiency and leads to the creation of positive externalities. Holcombe (1998) sees entrepreneurship as a productive activity because it expands the business environment. The research of Najarzadeh et al. (2012) entitled "the role of productive and unproductive entrepreneurship in economic growth" indicates that self-employment activities in the informal sector of the economy lead to tax evasion, which is considered unproductive activity. In a report in 2020 entitled "unproductive activities of competing production, some global experiences and strategies in Iran", the Parliament Research Center introduced examples of unproductive economic activities in five categories, which are: Making a profit from first, buying and selling of real estate (land, residential and commercial units), second, from gold, valuable metals trading (coins and ingots), third, from foreign currency transactions, fourth, from bank deposits and fifth, from the intermediation and distribution of goods. According to the report, any activity with the intention of generating income, profit or any kind of benefit that increase national production by creating added value is productive, while any activity that creates profit or benefit for individuals, but at macro level, does not create added value and does not increase national production, is unproductive. Economic activities are different in terms of added value. Some activities lead to the production of goods or services, hence benefit. Some other activities are merely the distribution of income from one person to another and do not add any value to industrial, agricultural or service products. For example, making a profit from buying and selling real estate (except for delivery services) does not create added value or production, but it can be profitable for housing traders. Sometimes these activities have low risk and high profit so they attract the capital, which could be used in production. Abbas Shakeri (2014) believes that unproductive activities play a restrictive role in the economy and cause the despair of productive factors.

Productive activities create positive externalities, i.e. they reduce ancillary costs but unproductive activities cause negative externalities and increase ancillary costs. Exploiting natural and human resources, unproductive activity causes inflationary recessions in the economy (Shakeri, 2016: 171). According to Olson (1982), there is a positive relationship between the weakness of laws and the creation and growth of non-material activities in economy.

Recognition of unproductive activities is inductive and can be identified from the effects of this type of economic activity. Therefore, unproductive activities cannot be defined by a fixed formula, but they are defined and identified on a comparative means based on the role they play in society and national production. Similar activity may be productive in one place and unproductive in another. Retail and wholesale are necessary and productive provided that they are in the service of production. When they become so large so that they take production into their own control, they become unproductive. Financial service is productive in essence if it is to equip funds for production and reduce the cost of risk. It is unproductive when it engages in extensive financial activities unrelated to production and helps create risk instead of reducing risk costs. In other words, if banking activity is a central institution, facilitator and enabler of the production system, and uses limited resources optimally, it is a productive activity, but if it attracts people's deposits at a high rate and injects it into unproductive activities, it is considered as an unproductive activity. Trade as a productive activity causes power of production and supply. It does not prolong the process of production to consumption, and it is based on absolute or comparative advantage and economies of scale. On the other hand, it is a restriction to production as an unproductive activity (Shakeri, 2016: 167-187). Service, including educational, health, commercial and welfare services, support production and their

role is essential. Obviously, activities that damage the productive strength of society and its environment cannot be considered productive activities.

This type of activity has a high return and it takes productive activities out of the economic cycle due to competition. Furthermore, it prevents the accumulation of physical and human capital, and technological improvement in the productive sector, and undermine the incentives of productive activities. When unproductive activity dominates a society and makes the process of productive activity difficult or limited, it leads to the development of meaningless, destructive, and thus production activities elimination. As a result, production remains to the extent of subsistence level, along with unintended economic, social and spatial consequences.

Economic change and the expansion of different types of employment are attributed to different factors from various scientific perspectives. According to Douglas North, the winner of the Nobel Prize in Economics, economic change results from transformations in human communities quantitatively and qualitatively, stock of knowledge and institutional framework (North, 2005: 1-2). The institutional structure, or in other words, the accumulated beliefs of society over time consist of the political and social structure, and property rights. Political structure defines the way in which political choices are made, the structure of property rights defines formal economic incentives, and informal incentives in economics are explained by norms and customs or social structure.

For economic geographers, institutions are seen as conduits to reduce the cost of local transactions. In general, there are three types of approaches to institutions in economic geography. These three types of institution evaluations included: Rational choice institutionalism that seeks to increase productivity by creating specific organizational forms in specific institutional environments. Sociological institutionalism that investigates social processes, networks, and commitments by examining collective interpretive frameworks. Finally, historical institutionalism that contributes to our understanding of the evolution of institutional structures throughout history (Martin, 2003).

In the view of relational economic geography, economic action, and its evolution is based on three propositions. Contextuality - economic factors function structurally in the context of social and institutional relations. Path dependency - in terms of dynamism contextually provides path-dependent development because economic decisions in past affect the action of today and future. Contingency - economic trends, despite path-dependent development, are subject to unpredictable change, and they operate essentially in an open system (Bathelt & Glückler, 2003: 117-144).

In this view, resources use (including material resources, knowledge, power and social capital) is also analyzed within social, institutional, political and economic relations and at a collective level. Furthermore, they affect each other in terms of efficiency and outcome (Bathelt & Glückler, 2005).

Scholars who have studied the relationship between culture and economic change are in several groups of as market-oriented, historian, and institutionalist. Market orientation believes that culture sometimes hinders economic change, meaning that certain institutions, such as extended families or caste systems in India or Hindu refusal to kill animals, may impede the efficient allocation of resources in developing economies. Adversely, they sometimes ignore the role of culture in economic transformation. According to Frederick List, one of the supporters of the historical school, the sense of self-esteem and sense of belonging to the country among a nation and the tendency to virtue and avoidance of corruption, depends on the productive strength of any society as a system of collective life (Need to be checked According to him, capital of mind as the source of innovation for the nation together with other forms of capital make a nation prosperous (Levi-Faur, 1997).

Among Institutionalists, Acemoglu and Robinson (2016) stated that any changes that occurs in technological production and leads to the improvement of production capacity will leave inevitable effects on the cultural behaviors and beliefs of the society. Thus, economic developments have a more significant effect on cultural developments. Oliver Williamson considers the effects of culture on the levels of macro and micro development to be crucial. Hajun Chank states there is a mutual interaction between

economics and culture, even though economic development is not subject to a cultural revolution. Because economic development, which means improving productivity, in some extent creates the culture that needs it. Douglas North believes that culture in its basic function is a decisive element in the formation of the motivational structure of society, and it forms the system of beliefs and institutions. These will form the motivational structure, determine the direction of knowledge acquisition, generate channels of personal interest, and finally create organizations appropriate to the institutional structure (North, 1990, p. 42-43).

3. Research Methodology

3.1 Geographical Scope of the Research

The spatial territory of the studied area consists of the historical region of Fumanat, in the north of Iran and the southeast of the Caspian Sea. The average annual precipitation in the area is 1300 mm, the average annual temperature is 7.5 ° C and its soil varies from alluvial to soft and black forest soils. The vegetation of the area includes Caspian Hyrcanian forests and natural mountain pastures that human-driven deforestation is transparent in their landscape.

Fumanat is one of the areas with the historical background, which is the center of "Biah Pas" (west of Sefidrud) in Fuman County. This area was located in front of "Biah Pish" (east of Sefidrood) whose center is Lahijan. Today, Fumanat region is divided into three counties: Fuman, Someh Sara and Shaft.

In the past, the economic equilibrium was established in the region, so each zone (coast, plain, foothills and mountains) used to have its own products to engage in the local and regional transaction. Now, many of the region's traditional products e.g., hemp and sugarcane with their processing industries are eliminated. Others, such as silk and tea are active in declining condition while some new economic activities are expanding. In general, the distribution system of economic activities in the region and consequently the dispersion of the population has changed. The most important consequence of which is the weakening of productive activities, inability of competitive activities against unproductive activities, unemployment and migration to the suburbs of cities in the region or the country. As a result, many problems and sometimes heavy damages were followed.

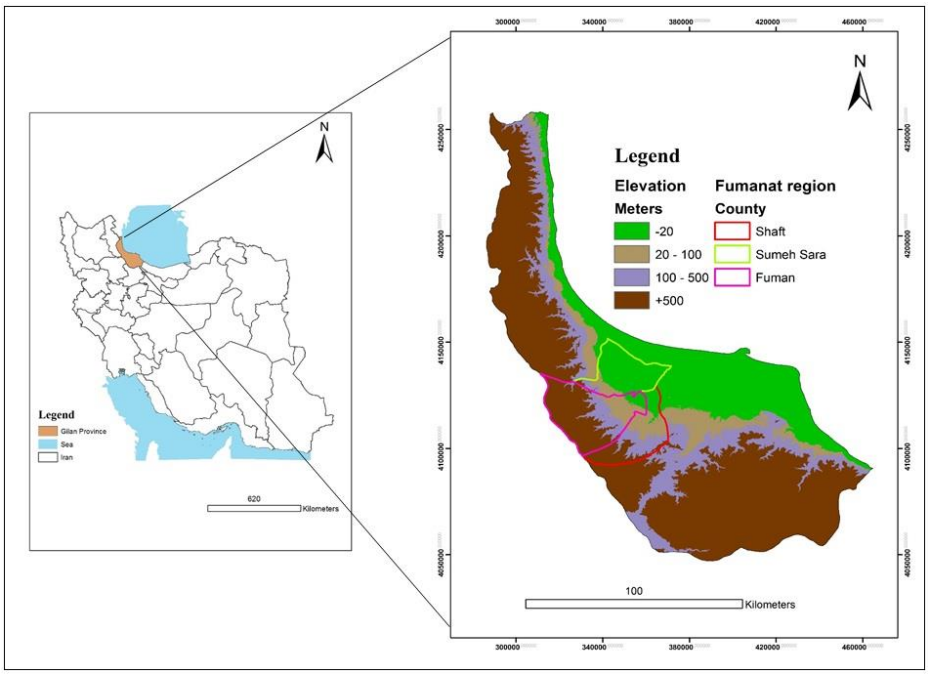

Figure 1. Location of the study area with emphasis on the elevation zoning

3.2. Methodology

The research is a qualitative method in terms of methodology. In order to collect the required data and information first, using secondary data, we identified changes in the share of employment in the economic sectors of the region (Table 2), changes in the area of agricultural land use (Table 3), as well as changes in the area of built-up land use (Table 4). In order to collect field information, all rural settlements in the area (403 villages) were divided into four types of coast, plain, foothill and mountain in terms of physical features and prevailing livelihood. In the coast zone, hunting and fishing are part of the livelihood of farmers. The plain zone is characterized by the dominant rice cultivation. In the foothill zone, a combination of rice cultivation and husbandry is evident, and finally, the mountain zone is a place for ranchers. 25 villages were selected as the sample villages. The villages consisted of 5,780 households, 236 of which selected among different zones using the Cochran method. Table 1 illustrates the sample villages of the research.

Table 1. Sample villages
Source: Statistics Center of Iran 1996 & 2011

Areas	Height (meters)	Inhabited settlements	Number of samples	Total households	Sample households	Village
Coast	Less than 20	25	3	1083	44	Baqlakessh - Handeh Khaleh - Siah Darvishan
plain	From 20 to 100	196	10	2799	114	Zaideh Paeen- Shirzil- Rudpish- Gol Afzan Gasht - Kordabad - Send - Khatib Gurab - Shekal Gurab - Pish Hesar
Foothill	100-500	84	6	1425	58	Darbagh - Ghal-e-Rudkhan- Heidarlat - Shulem - Gaskereh - Abroud
Mountain	More than 500	98	6	473	20	Lat- Visrud- Zodel- Koryeh-Zardaljeh- Taleghan
Total	-	403	25	5780	236	

We conducted interviews with different business owners of households in the selected villages, the common activities of households were identified (Table 5). The number of activities is not the same as the number of households because the number of employed individuals in different households was different. The identification of unproductive activities is inductive, so we separated productive and unproductive activities inductively. Sometimes it is necessary to know its instance, but it is necessary to know its features and effects (Shakeri, 2016: 164). In order to identify the factors affecting the creation and expansion of unproductive activities, we use the qualitative approach of grounded theory (Allan, 2003: 1-10).

4. Research Findings

4.1. Changes in the share of employment in economic sectors

Table 2 illustrates the share of employment in activity groups by cities and selected economic sectors of the region.

Table 2. The share of employment in activity groups and selected economic sectors of the region
Source: Statistics Center of Iran 1996 & 2011

County	Year	Agriculture	Industry	Construction	Hotels and restaurants	Financial intermediaries	Real estate and renting	Education
Shaft	1997	60.1	8.9	5.3	1.0	0.2	0.3	3.7
	2011	49.7	0.5	8.5	8.4	0.6	2.9	1.4
15 years range		-10.4	-8.4	+3.2	+7.4	+0.4	+2.6	-2.3
Someh Sara	1997	56.5	8.0	2.7	1.1	0.5	0.6	6.7
	2011	44.5	0.9	11.1	8.9	1.2	4.2	2.0
15 years range		-12	-7.1	+8.4	+7.8	+0.7	+3.6	-4.7
Fuman	1997	53.5	15.4	3.9	1.0	3.0	0.2	5.6
	2011	42.4	1.0	9.9	8.7	0.8	4.4	2.0
15 years range		-11.1	-14.4	+6	+7.7	+0.5	+4.2	-3.6

Based on the data in Table 2, in the period of 15 years 1996-2011:

A. The changes in the employment in the three cities of the district (Sumeh Sara, Shaft and Fuman) are almost the same.

B. The share of agricultural workers in the area has decreased by an average of 11.16 %.

C. The share of industrial workers in the area has decreased by an average of 9.97 %.

D. The employees in education sector in the area has decreased by an average of 11.16 %.

E. The share of employees in construction sector has increased by 5.87 %.

F. The employees in the hotel and restaurant sector has increased by an average of 7.63 %.

G. The employees in the financial intermediary sector has increased by an average of 0.53 %.

H. the ratio of employees in real estate and renting sector has increased by an average of 3.46 %;

The data shows a decrease in the amount of employment in all productive sectors during this period in contrast, in non-productive sectors it faced a significant increase.

4.2. Changes in the area of agricultural land use

Table 3. Changes in the area (hectares) of agricultural land use in a 30-year period from 1987 to 2017

Source: Agricultural Census Data 1987 and 2017

County	1987	2017	Change in hectares	Change in percentage
Shaft	22285	22871	586	+2.6
Sumeh Sara	53166	52346	-820	-1.5
Fuman	27908	25443	-2465	-8.8
Total	103359	100660	-2699	-2.6

According to the data in Table 3, in the 30-year period of 1987-2017, the amount of 2699 hectares or 2.6 percent of the area under agricultural use has been reduced. Therefore, the production area for agriculture has decreased, and instead, the number of unproductive activities has been increased, which will be discussed later.

Even though the production techniques in the region have transformed, rice production doesn't show a significant difference from 100 years ago. In fact, the yield of rough rice remains the same amount of 4 tons/hectare (1.2 ton/hectare white rice) while this amount is 3 times less than Turkey (Afrakhteh, 2017:146-152). That is why the net income of rice yield per hectare in 2019 didn't go higher than 70 million Rials. In 2020, untimely raining in the harvest season caused a lot of damage. The daily wage of the workers rose to six million Rials. As a result, rice cultivation is not economically viable. The trend of decline and stagnation of economic activities is also observed in other common productive activities of the region, namely tea cultivation, breeding and animal husbandry.

Iranian tea production in Fumanat has gone through a complicated process (Afrakhteh, 2018: 152-163). Due to privatization plan, the amount of tea production in the area decreased by 60%. Due to privatization plan, the amount of tea production in Fumanat decreased by 60%.

Silk cocoons production has seen the same deteriorating process (Afrakhteh, 2018: 163-174). This makes silk farmers lose their interest in silk production as it reduced from 5,400 tons in 2000 to 923 tons in 2016. The number of employees of Iran Silk Joint-Stock Company is reduced from 400 to 14, and the Kasma Village Silk Weaving Factory in Fumanat area is shutdown now.

Livestock breeding in the region achieved prosperity in various forms in the past (Pourfikoei 1978; and Bazen 1989), but due to the dominance of the traditional method, and insignificant income, it has been declined dramatically (Afrakhteh, 2018: 174- 177). In 2020, the outbreak of crimean congo haemorrhagic fever caused a lot of damage to farmers. The two traditional crops of sugarcane and tobacco are restricted in the Someh Sara area. All these data show that productive activities in the area are experiencing a drastic reduction.

4.3. Changes in the area of built-up land use

Table 4 shows the changes in the area of built-up land use in the Fumanat area. During this period, 1581 hectares or 137 percent, has been added to the built-up land in the area. A local survey shows that an average of 17.8 percent of these built-up lands consists of second homes, villas and houses

constructed by affluent urban residents in rural areas. That is to say, the less conversion of land use for production, the more unproductive residential and service land use.

Table 4. Changes in the area of built-up land use in a 30-year period from 1987 to 2017 (in hectares)
Source: Statistics book of the province, 1987 and 2017

County	1987	2017	Change in hectares	Change in percentage
Shaft	415	575	160	38
Sumeh Sara	415	1280	865	208
Fuman	324	880	556	172
Total	1154	2735	1581	137

4.4. Type of employment in terms of sample villages in different types of zones

Table 5 shows the common type of employment in the region in different types of mountain, foothill, plain, coast zones.

Table 5. Employment in the Various areas of Fumanat

areas	Occupation	Number	Percent	Unproductive percentage
Mountain	Animal husbandry	7	25	-
	Agriculture	3	10.7	-
	Slaughterhouse worker	2	7.1	7.1
	Restaurant worker	3	10.7	10.7
	Shopkeeper	4	14.2	14.2
	day laborer	3	10.7	-
	Carpenter	1	3.7	-
	Driver	1	3.7	-
	Employee	2	7.1	-
	Livestock middlemen	2	7.1	7.1
	Total	28	100	39.1
Foothill	Employee	6	9.2	-
	Agriculture	16	24.6	-
	Teacher	7	10.8	-
	Military	5	7.8	-
	Seller of construction materials	7	10.8	10.8
	Butcher	2	3.1	3.1
	Manual worker	6	9.2	-
	Tire dealer	2	3.1	3.1
	Driver	1	1.5	-
	Barber	1	1.5	1.5
	Coffee shop	2	3.1	3.1
	Billboard design	1	1.5	1.5
	Financial intermediaries	3	4.6	4.6
	Shopkeeper	3	4.6	4.6
	Post Bank teller	2	1.3	-
	Gasoline seller	1	1.5	-
	Total	65	100	32.3
plain	Agriculture	26	8.7	-
	Animal husbandry	3	1	-
	Grocery	14	4.7	4.7
	automobile repair shop	16	5.4	-
	Itinerant vendor	4	1.3	1.3
	Governmental Employee	15	5	-

areas	Occupation	Number	Percent	Unproductive percentage
	Military	22	7.4	-
	Teacher	16	5.4	-
	restaurant worker	32	10.7	10.7
	Coffee shop and barber shop	14	4.6	4.6
	Real estate dealer	10	3.4	3.4
	Clock smith and radio repair	7	2.3	-
	Stationery	6	2	2
	Photography	1	0.3	-
	Driver	5	1.8	-
	Simple worker	27	9	-
	House builder	18	6	-
	Industry	6	2	-
	Real estate dealer	12	4	4
	Taxi	24	8.6	8.6
	Baker	5	1.8	-
	businessperson	4	1.3	1.3
	Computer services	3	1	-
	Post Bank	4	1.3	1.3
	Gas station worker	3	1	-
	Total	297	100	9.41
Coastal	Agriculture	18	16.5	-
	Animal husbandry	8	7.4	-
	Fisherman and hunter	12	11.1	-
	Driver	5	4.6	4.6
	Sales person (grocery-coffee shop-barber shop)	9	8.2	8.2
	Baker	2	1.8	-
	Restaurant and Tourism	19	17.4	17.4
	Manual worker	8	7.3	-
	Employee	9	8.3	-
	Military	7	6.4	-
	Teacher	7	6.4	-
	Industry	5	4.6	-
	Total	109	100	30.2

According to local and inductive evaluation, in the mountain area 39.1 %, foothill 32.3 %, plain 41.9 % and the coastal area 30.2 % of jobs were estimated unproductive jobs. The plain area has the highest number of unproductive jobs because the population of this area, due to its proximity to the urban centers of the area, has had less migration. People in this area provided business around their settlements while the young population in mountain, foothill and coastal areas, due to local restrictions, have migrated to the urban centers of the region to search for jobs.

4.5. Effective factors in creating and expanding unproductive activities

To find the factors that create and expand unproductive activities, we obtained various statements through interviews with business owners in sample villages. Some quotations and related concepts and themes are shown in Table 6. These statements have been analyzed using the grounded theory approach.

Table 6. Statements about factors affecting the expansion of unproductive employment using grounded theory

Statement	concepts	Themes	Major theme
As long as the product is still in our hands, the price is very low. When the price rises we have the product no longer.	Economic uncertainty	Uncertain environment	Uncertain atmosphere
When selling livestock, livestock middlemen are all united and buy them from us at the cheapest price.			
Agricultural work has no end result.			
Production work has thousands blind knots, a wise person does not go close to it.			
Agricultural work is very hard and its income is very unstable and insignificant			
When you have an agricultural or livestock product, you have to curry favor with buyers on the other hand, you have to curry favor to provide tools and needs, too.			
I have been farming rice for 10 years, and spent all that money and effort. one year it was burned, another year it was rotted and another time it was destroyed by the pest.	Natural uncertainty		
Any work related to a living thing, whether plant or animal, is dangerous and risky			
No one knows you these days when you get in trouble.	Social uncertainty		
The farmer must always work. no pension and no insurance.			
The cost of mixed-livestock is not commensurate with its income.	Livestock is not economically viable	Production is not economically competitive	Weak support for productive activities
The price of bran and fodder is increasing steadily; veterinary medicines are becoming more expensive every day. Our cost cannot be met by this price for selling milk. Selling livestock also has its own problem.			
This year, we had a disease in our cows. The medicine was so expensive and it was all loss.			
Some of my classmates went to Tehran. I stayed here and continued farming. They now come by truck. I am old here empty-handed.	Agriculture is not economically viable		
Cultivate one hectare of land, you do not earn 15 million a year, Start a cafe, you earn 15 million per month.			
No farmer could go to Mecca instead they go to Mashhad was on loan [as a pilgrimage trip].			
Agricultural earnings and expenditure do not balance.			
The farmer has no peace.	Hard work of traditional agriculture		
Agriculture is always miserable			
The rancher work day and night no resting, but the worker sleeps comfortably at least at night.			
The young generation is not looking for agricultural work. We are tired too			
Today, if you hire a person (worker), it must be either old people or people with disabilities.	Lack of job attraction in animal husbandry		
There is no economic efficiency in small land size agriculture. You need others to help you for plowing, transplanting, harvesting, threshing, transportation, and because there are a lot of requirements for tools in the work season, operators do not do a good job. In fact, they ask for a lot of money.	Small units are not economically viable		
Income of small-scale agriculture is not compatible with today's cost of living			

Statement	concepts	Themes	Major theme
Employee means begging, after 30 days you get money that is lost within 5 days, you have to suffer for another 25 days miserly	An employee has almost no income	Formal activities are not economically competitive	
I was a sweeper in the hospital. When I got married, I could not rent a house with the salary	Worker wages are very low		
If you work as a worker, you have to live for eight hours, you get 200 thousand Tomans, which ends with bread, butter, sugar and tea, the job is not even every day.			
Business, today, is the best thing if the goods are not sold, the price goes up	Inflation has led to high profits for tradings	Financial intermediary has a high income	
Trading is always blessed, you can sell at a profit and at any price.			
Due to inflation, sales are profitable.	Land trading is thriving and profitable		
If you buy land, then get a construction permit, the price will increase 10 times.			
There are a thousand organizations to prevent the high price of little things such as candy, but there is no organization to prevent the high price of land and housing.			
Land trading today is a lucrative business.			
The income is good for restaurants.			
The prevalence of building second homes and more is the main source of purchasing building materials and profits of material providers			
30% of buildings that can be used for reconstruction are being destroyed			
Locals build houses as well as immigrants, which has boosted the sale of building materials			
Self-employment is good, you have your own choices and considerable income.	Informal activity has a high income		
When I was a farmer, I never had the money to raise my child sufficiently			
If I did something else (other than what you call illegal) I could not own a car for the rest of my life			
Whatever I did, I did not find a job, I had to work with this car	Lack of work in the public sector	Labor market recession	
There is no work here, you just can find a job in the cities, but they pay a maximum of one and a half million, with which you cannot even rent a room.			
I went to university to study and after all I got no job. I had to open this shop (selling CDs) to be busy			
In our house, four of us are all engineers, we all paid for them, but they are unemployed	Lack of work in industry sector		
In the past, this area was a textile factory, people were working, now it is closed			
Chuka (paper) factory used to hire employees, but now it is not recruiting			
The closed Fumanat textile factory is currently closed			
The closed Kasma silk industry is not currently hiring.			
If I do not smuggle, what can I do?			
In the past, tea factories used to recruit from spring to autumn, but now it is very low			
Graduates cannot do everything	Believe in clerical jobs	A culture of disregard for work	
Even low-paid jobs for public sector is good			
If I could work as a public servant, I would close my cafe today.			

Statement	concepts	Themes	Major theme
Even God knows intermediary money legitimate (Halal)	Transaction intermediary is an acceptable activity		
It has long been said that merchant is the beloved of God			
Buying and selling land is not worse than selling drugs			
In trading, you may gain not much money, but you are comfortable	Embracing easy work		
Shopping of any kind, even if the income is low, is good. Your body is comfortable			
Driving earns cash			
Livestock is not cost-effective at all. We keep these few livestock so that our rangelands won't be taken away from us.	Fear of losing pasture ownership	Weak property rights	Weak property rights
We were a company worker (temporary contract). After a while, we got redundancy dismissal.	Temporary contract	Ministry of Labor policy	Privatization
What should I do when no one is seeking production for the country?	Neglect national interest	Institutional malfunctioning system	Institutional malfunctioning system
Serving the country is an obsolete and meaningless concept.			
Nobody appreciated us when we did something good and lawful	Productive work is not encouraged		
They all smuggle and have never been persecuted.	It's not any responsibility in an informal job		
Now the money is contaminated, obtaining lawful (Halal) no longer makes sense	Receding the ugliness of unauthorized work		
Everyone who does something wrong is powerful now and laughs at our face.			
When everyone is struggling to make money why shouldn't I? The life is expensive especially when you are ill.	Earn money at any price		
After all, living needs money, you have to provide for it. You can't achieve satisfaction by just saying the word.			

Based on the findings of the grounded theory, there are five main factors in the creation and development of unproductive activities in the affected area, which are:

First, **an atmosphere of uncertainty** that has prevented the development of productive activities in three ways.

A. Natural uncertainty that the area requires the necessary technology and infrastructure to reduce natural damage to agricultural products. Specifically, in this region, rice fields and other crops are being destroyed because of unpredictable out of season rainfall, drought and pests. In the crop year 1398-1399 (2019-2020), about 30% of rice fields were completely destroyed due to untimely rain and storms. In the same year, because of spring hail, all plums were destroyed;

B. Economic uncertainty, which means that the pricing system, producer and consumer protection is in a state of confusion, and changes in the prices of agricultural products and the marketing system detrimental to the producer. In 2019, rice was purchased from the producer for 120 thousand Rials and traded in the market at a price of 200 thousand Rials. In 2019, rice was purchased from the producer for 120 thousand Rials and traded in the market at a price of 200 thousand Rials.

C. Self-employed farmers and ranchers often lack the necessary social and insurance support and, as they say, "We have to work as long as we live". When their agricultural and livestock products are damaged by natural or economic factors, or when the farmers are old and disabled, they will surely fall into poverty. Self-employed and low-income

farmers are not able to independently buy agricultural machinery (tillers, tractors, planters, harvesters, threshers, etc.). As a result, during the working season, they need to deal with all kinds of intermediaries who try to exploit the farmer.

Second, the **lack of support for productive activities** can be addressed in five ways:

A. Agricultural and animal husbandry activities are not economically competitive and cannot attract active labor, and this is due to various issues. The average production is insignificant and the traditional exploitation method contains both hard work and low efficiency. The average of a production unit's area for the dominant cultivation (self-employment rice cultivation) is about a half of a hectare and the average production per hectare is four tons of rice per year.

Livestock farming is also traditional and according to Afrakhteh (1993) is declining. This type of activity relies on grazing natural pastures plus additional fodder in winter, which requires high maintenance, nutrition, medicine and treatment costs. On the other hand, limited livestock production in addition to livestock purchases monopoly by livestock middlemen, who exploit the smallholders.

B. For the reason of the special situation of the country, the labor market is facing a recession. Unemployment in the region is officially 12.7 %, on the other hand, the minimum wages in the public, and service sectors do not meet the needs due to the prevalence of inflation. At the same time, availability of productive activities in Iran is restricted. Iran's ranking is 128th out of 190 countries on the ease of doing business (The World Bank Group, 2019). In contrast, unproductive activities do not require high expertise and capital, neither do they face various administrative and tax barriers. They make even a lot of profit especially informal and unauthorized ones.

C. Avoiding work attitude is also common in the area, which is against productive activities and prompts unproductive activities. This issue is rooted in history. Charles Issawi (1971: 56) says that "Iranians have an inclination for intermediary businesses, and in the economy they act as if they were born merchants and traders", an issue that intensifies migration to the suburbs and doing unproductive activities. Harvard advisory Group (1951-1958) argued that Iranians invest more in land and buildings, and this is a competitor to industrial investment (McLeod,1964).

Third, the **property rights issue** is one of the most important factors hindering productive activities in Iran. The property rights index is 4.579, and Iran ranks 103th among 129 countries (International Property Rights Index, 2019). According to Azizolahi (2018), one third of the country's court cases is land lawsuits. In many cases, the extent of public ownership is unclear, and this gap has provided an opportunity for land grabbing (even mountain and forest grabbing) for some dealers. This is indicated when one engages in side activities in order to guarantee one's land ownership rather than increasing the land capacity.

Fourth, **inadequate privatization** incompatible with the social and economic conditions of the region, which is another factor in the spread of unproductive activities in the region. On the one hand, the implementation of a temporary employment contract reduces the motivation of the worker and the employee to work, and on the other hand, the lay-offs have been joining the group of employees in unproductive activities.

Fifth, the **dysfunctional institution system**

Institutions provide structures to reduce uncertainties and structuralize the hidden incentives in human transactions (Rezagholi, 2019). Institutions are comprehensive which encourage development, and sometimes for various historical, social, economic, and political reasons, they do not have a developmental function, thus they become "dysfunctional." The clearest form of institutional structures can be found in the thought of Parsons and Merton. The work of this school of thoughts is tied to the concept of function (Ritzer & Stepnisky, 2017: 313).

The meaning of the dysfunctional institution structure has two components in consistence with theoretical support:

First, the direction of knowledge acquisition: a dysfunctional institution structure is a context that leads the direction of knowledge acquisition to methods of deception and corruption and rewards this mode of learning. Conversely, the type of knowledge that develops the country and creates prosperity is discouraged.

Second, formation of self-interest: the dysfunction institution structure, acts in such a way that individuals in the path of maximizing their own

benefits, damage long-term and national development interests (Momeni, 2020). The function of this institution structure in Fumanat region is that people do not pay attention to national and long-term interests; productive work is not encouraged; informal economy is not questioned; doing illegal work is not an immoral effort, and earning is at a survival level. As a result, unproductive activities are leading to elimination of productive activities.

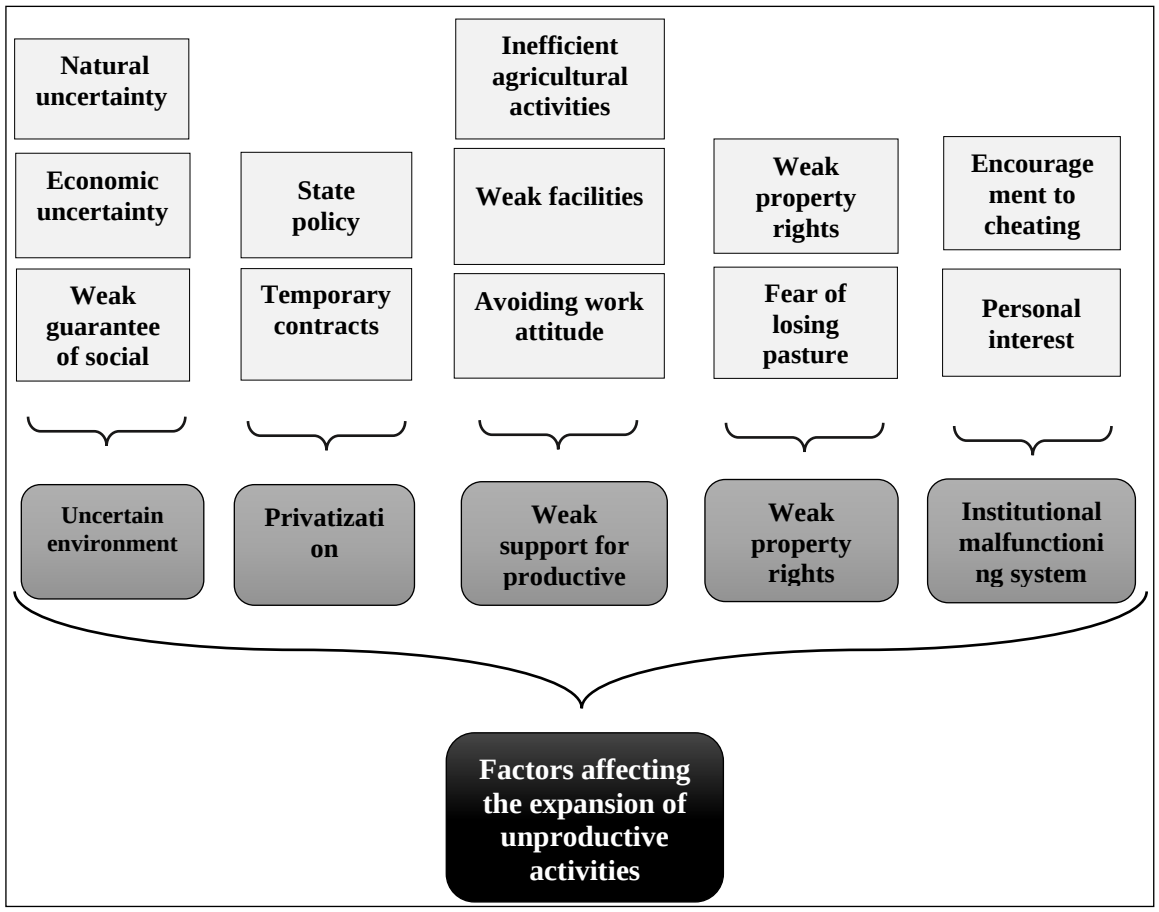

Figure 2: **Factors for the expansion of unproductive activities in the area**

5. Discussion and Conclusion

Productivity is an important indicator and necessity of economic growth. Economic activities can be considered productive or unproductive in terms of resource allocation and its consequences for the society. Social consequences have increasingly been one of the main market concerns (Fanti & Buccella, 2020). We studied these activities in a framework of a rural area and the current status of economic activities in this area.

The study showed that the spread of unproductive activities in the region lies in poor production and low efficiency. Most of those living in poverty are farmers and ranchers who are always busy. Conversely, those with a good income and a more prosperous life are coffee shop owners and market owners. John Foran mentioned that at the beginning of the Industrial Revolution, the production gap between the strongest country and the weakest country was at last three to one. At Safavid era in Iran, the distance between Iran and France was between 30 to 50 percent, but after the Industrial Revolution, this distance has increased greatly (Foran, 2007). According to David Lands (2005), the gap between the income per capita of countries at the beginning of the first wave of the Industrial Revolution reached to an unprecedented difference of 400 to 1. The data imply the difference between the efficiency of modern and traditional production methods. The traditional method of production, in addition to coercive hardship on producer, has little efficiency.

Low efficiency and income will limit the possibility of constructive cultural change. According to an earlier study carried out based on Maslow's theory (1958) in 72% of cases in Sardar Jangal County, the income and expenditure are not balanced. 74.5% of the population are often involved in meeting the lowest level of their demands, namely physiological and safety needs. At the same time, the presence of people engaged in informal activities in Tehran and large cities, which often have second homes in the region and show off their prosperous life, has made the local population unmotivated to work and make productive endeavor. Their main concern is not self-transcendence but merely the provision of basic human needs (Afrakhteh, 2015: 51-61). A community like this cannot be expected to think about long-term development and pursuit of productive activities. Farshad Momeni (2017) asserted that modern industrial production cannot be popularized in society unrealistically; it requires objective institutional tools. In Bathelt and Glückler view (2013) Institutions play two roles in economic activities: incentives and constraints roles that affect action and interaction in spatial economic point of view.

Synthesizing these mentioned above as well as Charles Issawi and the Harvard advisory group's arguments, we can understand the role of context and path-dependency on the direction of economic activity in the region. In other words, the dysfunctional institution structures will not be transformed into inclusive and functional institution structures without considering the context. Also, Bathelt (2006) argued that the aim and efficiency of actions in human actors are not defined in advance by this presumption that the actors always seek benefits and/or are rational. Rather, businesses are set in relation to specific economic and non-economic goals and strategies, as well as feelings and emotions. The result of this intended action involves intended and unintended consequences, which affect the next round of decisions. Similarly, investment decisions by individuals will be directed to unproductive and rent-seeking activities with rapid return if the quality of institutions is lacking, or they are not functioning well. As a result, investments deviate from production and innovation (Shirley, 2005).

It can therefore be argued that traditional production, low efficiency, lack of required cultural change, and the dominance of dysfunctional institution structures explain the vicious cycle of underdevelopment and the expanding of unproductive activities in such places.

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Authors' contributions

The authors equally contributed to the preparation of this article**.**

Conflict of interest

The authors declare no conflict of interest.

References

1. Acemoglu, D., & Robinson, J.A. (2012). *why nations fail: the origin of power, prosperity and poverty*. New York: Crown Business.
2. Afrakhteh, H. (1993). Traditional animal husbandry in Fumanat. *Geographical Researches Journal*. 28, 69-87. [In Persian]
3. Afrakhteh, H. (2015). The role of basic needs on villager's developmental behavior (case: Sardar Jangal District in Fuman County). *Journal of Research and Rural Planning*, 3(11), 51-61. [In Persian] https://jrrp.um.ac.ir/article_26380.html
4. Afrakhteh, H. (2018). *Rural Economy of Iran (Production System)*. Semnan, Hableh Rood Publication. [In Persian]
5. Allan, G. (2003). A critique of using grounded theory as a research method. *Electronic journal of business research methods*, 2(1), 1-10.
6. Azizolahi, S. (2018). One third of the country's court cases is land title lawsuits. ISNA. November 17. Retrieved from: https://www.isna.ir/news/97082612801
7. Bathelt, H., & Glückler, J. (2003). Toward a relational economic geography. *Journal of economic geography*, 3(2), 117-144. https://doi.org/10.1093/jeg/3.2.117

8. Bathelt, H., & Glückler, J. (2005). Resources in economic geography: from substantive concepts towards a relational perspective. *Environment and Planning A*, 37(9), 1545-1563. https://doi.org/10.1068/a37109
9. Bathelt H. (2006). Geographies of production: growth regimes in spatial perspective 3-toward a relational view of economic action and policy. Progress in human geography, 30(2), 223-236. https://doi.org/10.1191/0309132506ph603pr
10. Bathelt, H., & Glückler, J. (2014). Institutional change in economic geography. *Progress in human geography*, 38(3), 340-363. https://doi.org/10.1177/0309132513507823
11. Baumol, W. J. (1996). Entrepreneurship: Productive, unproductive, and destructive. *Journal of business venturing*, 11(1), 3-22. https://doi.org/10.1016/0883-9026(94)00014-x
12. Fanti, L., & Buccella, D. (2020). Pareto-Superiority of Corporate Social Responsibility in Unionised Industries. *Arthaniti: Journal of Economic Theory and Practice*, 19(2), 131-150. https:// doi.org/ 10.1177/0976747919865217
13. Foran, J. (1993). *Fragile resistance: Social transformation in Iran from 1500 to the revolution*. Boulder: Westview press.
14. Henrekson, M., & Sanandaji, T. (2011). The interaction of entrepreneurship and institutions. *Journal of Institutional Economics*. 7(1), 47-75. https://doi.org/10.1017/S1744137410000342
15. Holcombe, R. G. (1998). Entrepreneurship and economic growth. *The Quarterly Journal of Austrian Economics*, 1(2), 45-62. https://doi.org/10.1007/s12113-998-1008-1
16. International Property Rights Index. (2019). Edited by Lorenzo Montanari
17. Issawi C. (1971). *The economic history of Iran, 1800-1914.* Chicago: University of Chicago Press.
18. Ivashina, V., & Scharfstein, D. (2010). Bank lending during the financial crisis of 2008. *Journal of Financial economics*, 97(3), 319-338.
19. Kirzner, I. M. (1997). Entrepreneurial discovery and the competitive market process: An Austrian approach. *Journal of economic Literature*, 35(1), 60-85.
20. Lands, D. (1998). *The wealth and poverty of Nations: Why some are so rich and some so poor*. New York: W.W.Norton.
21. Levi-Faur, D. (1997). Economic Nationalism: From Friedrich List to Robert Reich. *Review of International Studies* 23(3), 359–370. https://doi.org/10.1017/s0260210597003598
22. Martin, Ron (2003). Institutional Approaches in Economic Geography. In In E. Sheppard & T. J. Barnes (Eds.), A Companion to Economic Geography *Blackwell Publishing Ltd*. Blackwell Publishing Ltd.
23. Maslow, A. H. (1958). *A Dynamic Theory of Human Motivation*. In C. L. Stacey & M. Demartino (Eds.), Understanding human motivation (p. 26–47). Howard Allen Publishers. https://doi.org/10.1037/11305-004
24. Mcleod. T. H. (1964). *National planning in Iran: A report based on the experiences of the Harvard advisory Group in Iran.* Development Aversory Service, Harvard University.
25. Momeni, F. (2017). Institutional requirements of production-oriented and productive employment. lecture in religion and economy research institution. April 16. [In Persian] retrieved from: http:// www.aryanews.com/ news/20170416172353349/
26. Momeni, F. (2020). Obsessing with speculation. Etemad newspaper. May 5. [In Persian] Retrieved from: https://etemadonline.com/content/403286
27. Najarzadeh, A., Mehranfar, J., & Tabarasi, M. (2012). The Role of Productive and Non-Productive Entrepreneurship in Economic Growth. *Journal of Planning and Budgeting*, 17(3), 115-130. [in Persian]
28. North, D. C. (1990). *Institutions, institutional change and economic performance*. New York. Cambridge University Press. https://doi.org/10.1017/cbo9780511808678
29. North, D. C. (2005). *Understanding the process of economic change*. New Jersey: Princeton University Press. https://doi.org/10.1515/9781400829484
30. Olson, M. (1982). *The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities*. New Haven, CT: Yale University Press.
31. Palley, T. I. (2013). *Financialization: what it is and why it matters*. In Financialization (pp. 17-40). Palgrave Macmillan, London.
32. Pourfikoei, A. (1978). Transformation of traditional livestock forms in Gilan plain. *Journal of Literature and Humanities. 3*(55), 621-639. [In Persian]

33. Rezagholi, A. (2019). *If North was Iranian*. Tehran: Institutionalist Publications. [In Persian]
34. Ritzer, G., & Stepnisky, J. N. (2017). *Sociological Theory* (10th ed.). SAGE Publications.
35. Shakeri, A. (2012). *Macroeconomics, Volume One*. Tehran: Rafeh Publishing. [In Persian]
36. Shakeri, A. (2016). *Introduction to Iranian Economy*. Tehran: Rafeh Publications. [In Persian]
37. Shakeri, A. (2016). *The threat of unproductive activities for Iranian economy*. special issue of the Sixth Development Plan, Khorasan Newspaper, p.10. [In Persian]
38. Shirley, M. M. (2005). *Institutions and Development*. In C. Ménard & M. M. Shirley (eds.), Handbook of New Institutional economics (pp. 611-638). Springer, Boston, MA. https://doi.org/10.1007/0-387-25092-1_25
39. World Bank Group (2019). *Doing Business 2019*. World Bank, 304. https://doi.org/10.1596/978-1-4648-1326-9

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Original Article

فعالیت های غیرمولد و عوامل گسترش آن در ایران

حسن افراخته[1*]- امید جمشیدزهی شه‌بخش[2]

۱ـ استاد جغرافیا و برنامه‌ریزی روستایی، دانشگاه خوارزمی، تهران، ایران.
۲ـ دانشجوی دکتری جغرافیا و برنامه‌ریزی روستایی، دانشگاه سیستان و بلوچستان، زاهدان، ایران.

چکیده مبسوط

۱. مقدمه

فعالیت غیر مولد به فعالیت‌هایی اطلاق می‌شود که در تولید ناخالص ملی اثر مثبتی نداشته اما درآمد و بازدهی بالایی در بر دارد. این‌گونه فعالیت‌ها اگر از نظام اقتصادی کشور حذف شود، نه‌تنها آسیبی به کشور نمی‌رساند بلکه می‌تواند موجب توسعه فعالیت‌های مولد شود. در سه دهه اخیر، فعالیت‌های غیر مولد در اقتصاد ایران ایجاد و گسترش‌یافته است، این نوع فعالیت، نیازی به تخصص ندارد، ریسک ندارد، تعهدی در قبال جامعه و دولت ندارد. در مقابل، دارای بازدهی بالایی است. به همین دلیل این نوع فعالیت، بخش زیادی از سپرده‌های بخش خصوصی را به خود جذب کرده و موجب توسعه فعالیت‌هایی چون خریدوفروش سکه، ارز، زمین و مسکن شده است. چنین فعالیت‌هایی به دلیل ریسک‌پذیری ناچیز و کسب سود بالا، گسترش فعالیت‌های مولد اقتصادی کشور را دچار اختلال کرده است و انگیزه کار و تلاش سازنده و خلق ثروت در کشور را با چالش مواجه ساخته است.

۲. مبانی نظری تحقیق

شناخت فعالیت‌های نامولد جنبه استقرایی دارد و از روی اثراتی که این نوع فعالیت بر اقتصاد می‌گذارد، قابل‌شناسایی است. بنابراین، فعالیت‌های نامولد را نمی‌توان از روی قیاس و فرمول مشخص کرد بلکه بر اساس نقشی که در جامعه و تولید ملی ایفاء می‌کند و به‌صورت موردی تعریف و شناسایی می‌شود.

کنش اقتصادی انسان تحت تأثر عوامل مختلفی قرار دارد. اولین عامل، متن جامعه‌ای است که فعالیت‌ها در آن جریان دارد. عامل دوم وابستگی به مسیر است. به این معنی تصمیمات اقتصادی دیروز، زمینه عمل امروزی و آینده را تحت تأثیر قرار می‌دهد و عامل سوم، اقتضایی بودن کنش اقتصادی است که روندهای اقتصادی به‌رغم توسعه وابسته به مسیر، موضوع تغییر غیرقابل‌پیش‌بینی است و به‌طور اساسی در سیستم باز عمل می‌کند. بنابراین سیستم نهادی جامعه، نظام قاعده گذاری و سیستم پاداش‌ها تعیین‌کننده روند فعالیت اقتصادی است. در جامعه‌ای که نظام تصمیم‌گیری از گسترش فعالیت‌های مولد پشتیبانی نکند و برعکس ، مشوق فعالیت‌های رانتی و غیر مولد باشد، فعالیت‌های بخش مولد در اثر عدم توان رقابت حذف می‌شود و فعالیت‌های نامولد گسترش می‌یابد.

۳. روش‌شناسی تحقیق

ناحیه موردمطالعه تحقیق، فومنات از نواحی با سابقه تاریخی گیلان است. استراتژی تحقیق استقرایی با استفاده از رویکرد کیفی است. داده‌های موردنیاز تحقیق به دو روش اسنادی و مطالعه میدانی به‌دست‌آمده است. اطلاعات موردنیاز، مراحل مختلف زیر انجام‌شده است: نخست، با استفاده از داده‌های اسنادی، تغییرات سهم اشتغال بخش‌های اقتصادی ناحیه، تغییرات سطح زیر کشت اراضی کشاورزی، و نیز تغییرات سطوح دست‌ساخت انسانی نشان داده‌شده است. تا روند تحول فعالیت‌های مولد مشخص شود؛ دوم، با مراجعه مستقیم و انجام مصاحبه با صاحبان کسب‌وکارهای مختلف هر خانوار، در روستاهای نمونه که به روش کوچران انتخاب‌شده است، فعالیت‌های رایج خانوارها بررسی‌شده است.

*. نویسندهٔ مسئول:
دکتر حسن افراخته
آدرس: گروه جغرافیا و برنامه‌ریزی روستایی، دانشکده علوم جغرافیایی، دانشگاه خوارزمی، تهران، ایران.
پست الکترونیکی: Email: afrakhteh@khu.ac.ir

از بین فعالیت‌های رایج، فعالیت‌های غیر مولد به روش بررسی محلی و استقرایی شناسایی‌شده است؛ جهت درک عوامل مؤثر بر ایجاد و گسترش فعالیت‌های نامولد، از رویکرد کیفی گراندد تئوری استفاده‌شده است.

۴. یافته‌های تحقیق

تحقیق نشان می‌دهد که در ناحیه کوهستانی،۳۹.۱ در صد مشاغل، در ناحیه پایکوهی، ۳۲.۳ در صد مشاغل، در ناحیه جلگه‌ای، ۴۱.۹ درصد مشاغل و در ناحیه ساحلی ۳۰.۲ درصد مشاغل، از نوع فعالیت‌های غیر مولد قابل ارزیابی است و وجود فضای نااطمینان، عدم‌حمایت از فعالیت‌های مولد، ضعف حقوق مالکیت، خصوصی‌سازی‌های ناموجه و سیستم نهادی گژکارکرد در توسعه فعالیت‌های نامولد در ناحیه مؤثر بوده است که درنهایت به فعالیت‌های تولید و گسترش کار خلاق آسیب می‌رساند.

۵. بحث و نتیجه‌گیری

تحقیق نشان می‌دهد که از یک‌سو، بین گسترش فعالیت‌های نامولد و بهره‌وری اندک فعالیت‌های تولیدی سنتی رابطه‌ای وجود دارد. فعالیت‌های تولیدی سنتی پرمشقت و کم بازه هستند. اغلب کسانی که در ناحیه از فقر در رنج هستند، کشاورزان و دامدارانی هستند که همیشه مشغول کارند. از سوی دیگر، گسترش فعالیت‌های نامولد با محیط نهادی جامعه رابطه دارد. در جامعه‌ای که به دلیل تسلط ساختار نهادی کژکارد، منافع شخصی بر منافع بلندمدت ملی و اجتماعی ترجیح داده می‌شود، هزینه‌های مفت خوارگی پایین است و برعکس، بخش مولد با انواع نااطمینانی های طبیعی و اجتماعی روبروست، فعالیت نامولد رشد کرده و جامعه را در دور باطل توسعه‌نیافتگی درگیر و دچار آسیب می‌کند.

کلیدواژه‌ها: عدم قطعیت، حق مالکیت، سیستم مؤسسه ناکارآمد، فعالیت‌های غیرمولد، فومنات.

تشکر و قدردانی

پژوهش حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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Original Article

Assessing the Feasibility of Rural Participation Based on Good Governance Indicators (Case Study: Abarkooh County)

Mehran Fatemi [1], Saeedeh Moayedfar [2*], Hojat Rezaei [3]

1- Assistant Prof. in Climatology, Meybod University, Meybod, Iran
2- Associate Prof. in Geography and Urban Planning, Meybod University, Meybod, Iran
3- Ph.D. in Geography and Rural Planning, Tehran University, Tehran, Iran

Abstract

Purpose- since governance has a direct and close relation to democracy and socio-economic development everywhere, and it is considered to be the main discussion of the discourse of sustainable rural development, the purpose of the present study is to examine the position of governance indicators in rural areas of Abarkooh County and its impact on the villagers' higher participation.

Methodology- the present research has been conducted using a descriptive-analytical method and the data were obtained through survey methods. The statistical population of this study were rural district governors, members of Islamic councils and residents of Abarkooh County. Chi-square test, Wilcoxon signed-rank test, Pearson correlation coefficient and regression coefficient were used to analyze the data.

Research findings- the results indicate that the villagers had the highest participation of villagers is in manpower and participation in land donation is in the second place and financial aids is in the last place due to the weak financial strength of the villagers. According to the results of the T-test, the scores of the items related to the indicators of rural governance in Abarkooh County are at a desired level and the highest values belong to social trust and social justice indicators and the lowest value belongs to rule of law indicator. The results of Wilcoxon test show that, the impact of feasibility of governance indicators on public participation in this area has been at a high level. Pearson correlation coefficient and regression analysis were used to examine each of the governance indicators "transparency and accountability, efficiency and effectiveness, social justice, awareness, social trust, rule of law, acceptance of participation" as independent variables on villagers' participation in the dimensions of "manpower, financial assistance, land donation, (which were aggregated) as dependent variables and determine the effect of each of these dimensions. The correlation test value equal to 0.712 shows a significant, positive and direct relationship between independent and dependent variables of the present research. The modified determination coefficient indicates that, 69.4% changes in villagers' participation level is related to feasibility of principles of governance in the study area; therefore, holding meetings for rural people, rural district governors and members of councils for more interaction and informing people about their rights, clarification of financial and income issues and identification of capabilities of human society can play an essential role in feasibility of this matter.

Keywords: Participation, Good governance, Governance indicators, Abarkooh County.

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Corresponding Author:
Moayedfar, Saeedeh, Ph.D.
Address: Department of Geography, Faculty of Human Sciences, Meybod University, Meybod, Iran
Tel: +989103091494
E-Mail: moayedfar@meybod.ac.ir

1. Introduction

Rural development is a multidimensional process and ensures continuous improvement of life and its quality in rural society; in other words, rural development is a strategy that has been developed to improve socio-economic lives of poor villagers (Norouzi & Ebrahimi, 2018).

This approach which was raised in literature of development especially in developing countries align with establishment and institutionalization of civil society in 1990th, has a special place and is identified as one of the requirements of regional and local sustainable development which cultivates the two concepts of empowerment and participation (Sarrafi & Taghizadeh, 2008). Today most rural development experts believe that, achieving sustainable development is not possible without the participation of the majority of people and without any doubt with public participation the development transition period will be facilitated, accelerated and less expensive (Asadi, et al, 2016). Considering the issues and problems due to centralized planning in recent years, fundamentals of rural planning have shifted to participatory planning and the basic concept of rural planning has changed from planning for people to planning with people (Seydaii et al., 2013). The novel approach is based primarily on decentralization and transfer of responsibility to local governments and lower levels of rural management. In this planning method, the role of people and non-governmental organizations is fully highlighted and becomes central not just superficial. In fact, the concept of public participation is interrelated with the concepts of efficiency, decentralization and local governments and introduces the local governments as the superior and impressive option (Ghadermarzi & Jamini, 2017). In this regard, the World Bank in its 2017 report, considers that, achieving all development goals requires a correct understanding of governance (World Bank, 2017).

According to the report of United Nations High Commissioner for Human Rights, the best sign of good governance is the degree to which it leads to advancement of human rights including civil rights. Resolution 64 of the Human Rights Commission has clearly linked the governance to an environment which is able to establish human rights and promotes the sustainable human development (Ghadermarzi & Jamini, 2017).

Governance has a direct and close relationship with democracy and socio-economic development and today it is the main discussion of the development discourse or in other words, rural governance is considered to be the essence of the process of sustainable rural development, as United Nations has called it as the only important factor in reducing and eliminating poverty and advancing development (Hesam et al., 2015).

Josef Stiglits believe that, today the development goals have been expanded and include sustainable development and equal and democratic development (Heidari Sarban, 2019). Regarding good governance it can be noted that, thoughtful leadership and management of the community which is correct and efficient, within the framework of rule of law, rational and fair decision making with accountability and responsibility, public participation and similar strategies are created through correct interaction between citizens and socio-political forces of civil society with the government (Sardarnia, 2011). Good governance has been proposed in various studies with the aim of achieving sustainable human development which emphasize on reduction of poverty, creating sustainable jobs and prosperity, environmental protection and regeneration and growth and development of the society, especially women, which all of these are feasible through good governance (Bemile & Boateng, 2015). This is one of the newest and most popular approaches which have been proposed in the field of sustainable rural development management and is based on three main pillars of government, private sector and civil society; it emphasizes on active and effective presence of these pillars in the shadow of participation, accountability, rule of law, efficiency and effectiveness, responsibility, consensus and human monitoring and development (Murdoch & Abram, 1998). Also, today the advancement of good government approach requires rural people and communities to be organized in civil organizations in the form of small social networks so that, they can use and manage their capabilities, talents and creativities properly (Roknodin Eftekhari et al., 2012). Also, in this model the direct operational responsibility of the manager becomes less and a better possibility is provided for bottom-up planning and control by private and public institutions under the title of public participation (McGill, 1998). It can be noted to emphasize the participatory role of people in management affairs

that, experience has shown that, public participation in managing affairs not only improves efficiency and allocation of costs in the field of social priorities and infrastructural projects, but also it is a kind of decentralization in management that increases human development, equality and realization of social and political justice (Hekmatnia & Mousavi, 2002). These cases show that, in today's rural management, the desired development and sustainability cannot be achieved without public cooperation and participation (Rabbani et al., 2007); but in this regard, it must be acknowledged that, villagers' participation in rural affairs are influenced by several factors and without considering these factors one cannot expect the participation of the villagers in the rural events. Education, economic level, income status, job satisfaction, social capital and gender are the factors which influence public participation and have been noticed and studied by researchers from a long time ago; but there are other factors which also play an important role in rural participation and enhance people's participatory roles including the existence of trust among villagers and governors, justice in distribution of resources in villages, transparency and accountability of managers about villages' issues, informing villagers about their rights, ongoing plans and the impact of villagers' opinions on the project planning process, rule of law of village governors in relation to their resources and power. Thus, it can be stated that, as villagers' participation plays a vital role in improving the management of the villages in solving villagers' issues, applying the principles of good governance can also be effective in the participation of the villagers.

The historical experience of our country, while emphasizing the application of top-down strategy in development, shows its failure in the process of rural development; therefore, based on this experience and increasing the field of knowledge and science, it is necessary for society to put the headline of its programs and measures to pay attention to rural development with a focus on public participation.

Abarkooh town with a population of 43000 people in 34 rural areas is among the rural parts of the country which over the years, their management has been entrusted to rural district governors and councils. It seems that, after nearly two decades of the new rural management system, in order to evaluate their performance within the framework of a good governance, it is necessary to conduct studies in this field to achieve executive solutions; therefore this study tries to examine and analyze the extent and how to achieve good governance indicators in rural areas of Abarkooh town, also examine the participation factor and evaluate its impact and seeks to answer these questions:

To what extent the indicators of good governance have been feasible in the rural areas of Abarkooh town?

What has been the effect of establishing good governance indicators in the target areas on the participation of rural people?

2. Research Theoretical Literature

In order to achieve the theoretical foundations of the research, considering the importance of participation and governance in this study, it can be mentioned that, public participation is : a basic process during which people wisely and consciously and willingly accept a part of the responsibility of affairs as a group and try to satisfy the spiritual and psychological needs of individuals and groups and in order to achieve predetermined goals based on real needs and with considering the possibilities and limitations, they try to gain individual and collective identity in the society (Yaghfouri et al., 2014). Oakley states three interpretations to define participation which are: participation as a share, participation as organization and participation as empowerment (Salimi, 2010). Glass believes that, participation is: providing opportunities for people to take part in governmental decisions or planning processes (Glass, 1979). Governance is: exercising political, administrative and economic power in managing the affairs of countries in various levels (macro to local levels) by which individuals and groups can achieve their interests in the form of a process (Weldeabrha, 2017). Halfani et al., identify governance as the relationship between civil society and the government, between the rulers and the ruled, government and governed (Halfani et al., 1995). Indeed, good governance is the efficient management of public affair through establishing a legitimate government and legal rules in line with the advancement of social values of individuals and groups (Plumptre & Graham, 1999). In this definition the normative dimension of governance has been considered, but its political dimension (adherence of the government to the public interest) and technical-administrative dimension (Bureaucratic capability) have been ignored; since not only government includes governmental institutions, but also it includes unofficial and non-governmental mechanisms too; mechanisms through which

individuals and organizations meet their needs and satisfy their demands (Atkinson, 1998). Since 1980 which governance was proposed by urban researchers, it was implicitly considered as a basically urban phenomenon for a while, but similar processes were operating unofficially in rural areas too. However, before the mid-1990s the perspective of good rural governance was also revealed (Norouzi & Ebrahimi, 2018). In fact, good rural governance has been established on sustainability-based development theories and planning with a bottom-up approach. Good rural governance is the effectiveness of all rural pillars involving in rural management, with all mechanisms with which we can move towards the excellence and development of the village and the rural people; in other words, good governance means: implementing decisions and policies of the rural people, in line with their interests and also national, regional and local interests. Meanwhile, the role of governments is mostly limited to a framework for providing hardware and software platforms including harmonization and protection of national laws and treaties, and direct government intervention in decision making, as well as the management of people's lives, is reduced (Roknodin Eftekhari et al., 2012). In 2003, United Nations Development Programme has presented indicators as the main indicators of good governance and considers the realization of development to require their implementation. These indicators include: transparency (expresses the establishment of mutual trust between the government and the public through the provision of information), rule of law, accountability, justice (providing equal opportunities for all citizens), responsibility (increasing government managers' sensitivity to public demands), efficiency and effectiveness (ensuring the provision of services to the public with the optimal and wise use of resources) and participation (UN-HABITAT, 2009). Moreover, in the same year, Daniel Kaufmann, Art Krary, Pablo Zoid, and Lobaton have presented indicators such as the right to comment and accountability, social trust, political stability, government's effectiveness, the quality of law and rules, rule of law and control of corruption as the main bases of good governance (Kaufmann et al., 2007).

Also, the presented theories related to good rural governance in the form of empowering approaches which emphasize on three main elements of "growth and awareness along with criticism", "developing capacities for effective transformation based on the facts", "strengthening organizations and organizing people", include participatory development approach, capacity development approach including institutionalization, institutional strengthening and development, development management, developing human resources and new institutionalism, environmental management approach, and institutional development approach, and each of which has some kind of specific principles. Rose (2006) has shown in their studies that, the existence of trust is necessary to increase people's participation in managing various affairs. In other words, in the millennium which postmodernist thoughts have emerged, indicators such as institutional trust, social satisfaction, health satisfaction, and other humanistic concepts like social welfare have come together and all depend on citizen participation resulted from trust in management (Giddens, 2006; Bannet, 2004). Heidari Sarban (2019) conducted research with the aim of assessment and evaluation of local management patterns based on the good governance indicators in rural areas of Meshkin Shahr city. The results showed that, the indicators of social trust and responsibility have positive effects on the formation of desired pattern of rural local government in Meshkin Shahr and the rural local government of this city is in a good status in terms of the indicators of good governance. Norouzi and Ebrahimi (2018) have conducted research in which they examined 8 indicators related to good governance in sample villages of Lenjan town and concluded that, the realization of good governance in these areas was below the desired level and not all the indicators were favorable. Also, there is a significant difference between the villages in terms of feasibility of good governance. Ahmadi and Cheraghi (2017) have examined the effective factors on the feasibility of good governance in villages of Zanjan city according to the performance of rural district governors and the results show that, people's satisfaction with their performance is not at the desired level. Rahmani Fazli et al., (2017) evaluated the status of rural management based on good governance approach in sustainable rural development in two central parts of Koohdasht and Lavasanat and concluded that, there is a considerable difference between the two study areas in terms of management based on good governance approach and sustainability level of settlements, so that, in both areas, the villages with a good governance status are more sustainable. Haji Alizadeh

et al., (2016) conducted a study on nalysis of correlation between governance patterns and citizen participation in Shiraz and concluded that, there is a significant relationship with 99% confidence between governance indicators and citizens' participation. Rahmani Fazli et al., (2017) in their research examined the theoretical foundations of good governance in the process of modern rural management and found out that, governance with various indicators such as transparency and accountability, social justice, trust, awareness, acceptance, and providing grounds for participation, etc. can present a desirable approach to constructing modern rural management and play an impellent role in the process of sustainable rural development through providing participatory grounds for different rural strata including poor villagers, creating jobs, and enhancing economic and social growth. Among the foreign studies. Mdee and Thorley (2016) examined governance in Tanzania according to development program 2025, Young et al., (2011) investigated the application of good local governance in implementation of rural development programs. Rudra (2011) studied good governance and human development in states of India and the results showed that, good governance and human development in previous eras determine the present human development in India. As is clear, in most studies, theoretical discussions of governance and good rural governance have been stated. In practical cases also, the impact of this approach (reduction of poverty, creating welfare, etc.) and or effective factors (individual characteristics, training, participation, etc.) are examined; therefore, the purposes and process of this study is consistent with the studies of Norouzi & Ebrahimi (2018), Ahmadi & Cheraghi (2017). Yet the difference is that, in this study more emphasis was placed on participation and the effects of the feasibility of good governance in rural areas and the theoretical framework of the study was designed in a way that, the improvement of local management based on indicators of good governance have been evaluated and attempt has been made to take this topic that has not been paid attention to in other studies and despite the previous studies in which only the relationship between the two variables of governance and development was investigated.

3. Research Methodology

3.1 Geographical Scope of the Research

Abarkooh town with an area of 5641 square kilometers is located in the distance of 52° 50´ to 54° 51 ´ east longitude and 30° 30´ to 31° 35´ north latitude in the west of Yazd province. This city is limited to Taft city from the north, Isfahan province from the northwest, Mehriz city from the east, and Fars province from the southwest. This region has a hot and dry semi-desert climate. The average annual rainfall of this city is 68 mm. according to 2016 census the population of Abarkooh is 51552 people (National Statistica Portal f Iran, 2016). (fig.1)

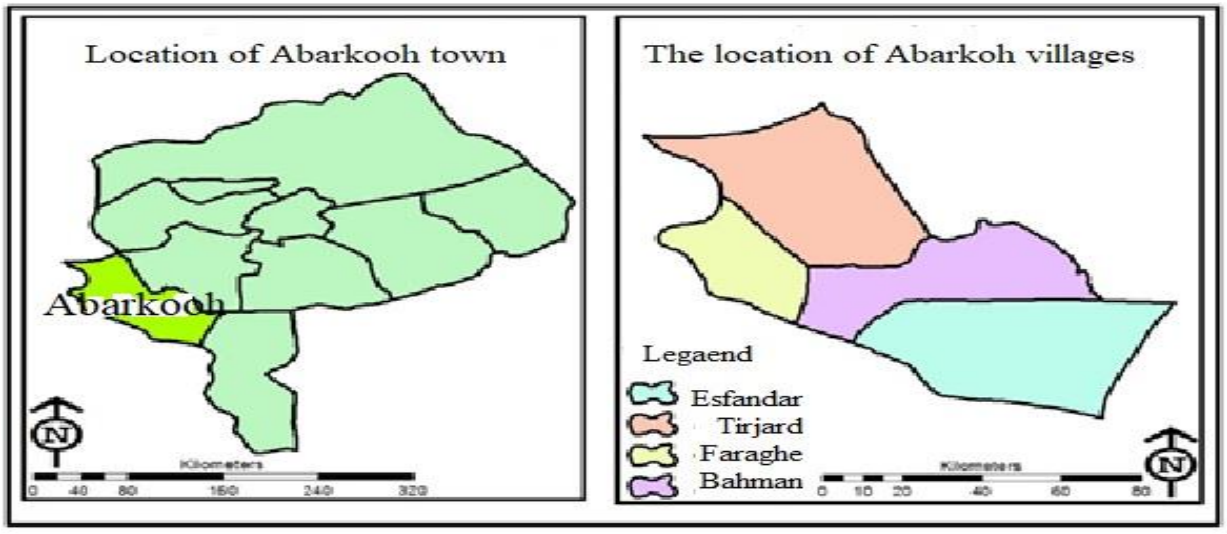

figure 1. Geographical location of the studied area (Abarkooh County)

Table 1. Educational status of the respondents

Level of Education	Managers		people	
	Frequency%	frequency	Frequency%	frequency
illiterate	0	0	4.33	12
elementary	0	0	35.38	98
guidance	31.25	10	29.96	83
diploma	37.5	12	19.14	53
Bachelor's degree and higher	25	8	11.19	31
Total	100	32	100	277

The present theoretical study is conducted with applied purposes using the descriptive-analytical method and its data were collected through library resources (taking notes, internet) and field method (questionnaire, interview). The statistical population of the research were the residents of all villages of Abarkooh, rural district governors, and members of Islamic rural council of this town. In the 2016 census this city had 34 inhabited villages with 11660 households and a population of 42610 people. Based on modified Cochran's formula (about limited population) 25% of villages considering Abarkooh districts (4 districts) as statistical classes were selected by random class system which included 8 villages of Ahmad Abad, Harouk, Shams Abad, Deh Arab, Harouni, Shahr Abad, Asad Abad Sofla, and Sadegh Abad. These 8 villages had a total population of 3511 people and 993 households. Then Cochran formula was used to achieve the reasonable volume of sample population. Given the statistical population volume (8 selected villages) 277 households were selected randomly with error level 0.05. Since, in addition to rural households, rural district governors and council members are also influential in governance and participation, an attempt has been made to sample this community as well; on this basis, a total of 32 samples were determined (all council members and rural district governors of 8 villages under study). Specific questions were designed in dimensions of transparency and accountability, efficiency and effectiveness, social justice, awareness, social trust, rule of law, acceptance of participation and the questions were designed as a 5-point Likert scale. The validity of the questionnaire was evaluated according to experts' opinions and Cronbach's alpha method was used to determine the reliability of the questionnaire using SPSS and the obtained coefficient was 0.87. descriptive statistics (frequency, frequency %, mean) and inferential statistics (one-sample T-test, Ch-square test, wilcaxon test, Pearson correlation coefficient and regression determination coefficient) were used for data analysis. According to theoretical foundations of the study, in order to achieve the purposes of this research, 7 indicators and 24 items were used in the form of table 1 and in order to evaluate the impact of rural governance on each rural participatory items as a modern rural management approach, 15 items were raised in this regard. (table 2)

Table 2. Indicators and objects used in the research

indicator	object	indicator	object
transparency and accountability	Informing the villagers about various issues in the village	awareness	Informing people about their citizenship rights
	Requesting opinions from residents regarding rural programs and plans		Informing people about their duties
	Clarity of procedures and responsibilities in various rural matters	social trust	Criticism of officials
	Creating facilities to receive public complaints		Honesty of officials

	Disclosure of income and assets through holding meetings		Trustworthiness of officials
efficiency and effectiveness	Estimating villagers' satisfaction with the provision of rural services	rule of law	Spend the credits within the budget
	The level of efficiency in achieving the goals of the projects after implementation		Managers' use of authority for the benefit of relatives and friends
	The amount of use of available resources to improve the lives of villagers		Action within the framework of the program and tasks
	The program is centered on villagers and members of the Islamic Council	acceptance of participation	The power of villagers to influence decisions and general issues of the village
social justice	Participation of the deprived classes in the administration of affairs		The share of villagers in the management power of the village
	Fair distribution of resources among villagers		Forming the local elected council
	The use of female consultants in the administration of affairs		The election of the local village manager

4. Research Findings

4. 1. descriptive findings

The results of describing the characteristics of the statistical Population showed that, the most age group of respondents among residents and managers were between 30 to 40 years old. 94.7% of total sample respondent villagers were male and 5.3% were female and 89% of managers were male and 11% of them were female. The average household dimensions for residents and managers were 3.1 and 3 respectively. The literacy status of the respondents are given in table (2).

4. 2. inferential findings

The inferential findings of the research include several steps; determining the participation rate of villagers, determining the feasibility level of governance in Abarkooh city; identifying significance level and impact of governance indicators on the villagers' participation separately for each index; explaining the impact rate of governance principles on the items related to rural participation; analyzing the relationship between governance and the villagers' participation.

4. 2. 1. identifying the rate of the villagers' participation

In order to examine the dimensions of participation among rural community, attempts were made to examine this important matter in various dimensions such as participation in the field of human force (intellectual, cultural, and physical consultation), financial aid (investment, helping in construction), and land donation.

The results of table 3 indicates that, the highest rate of villagers' participation was in the field of human forces and participation in land donation was in second place and financial aid took the last place due to weak financial base of villagers.

Table 3. The level of participation of the rural people of Abarkooh city in different dimensions

Type of participation	Very much		much		medium		little		Very little	
	%	Number	%	Number	%	Number	%	Number	%	Number
human resource	22.74	63	30.23	84	32.5	90	9.02	25	5.4	15
Financial aid	14.4	40	25.9	72	19.8	55	21.7	60	18.05	50
Donation of land	13.35	37	28.9	80	27.07	75	18.05	50	12.6	35

4. 2. 2. assessing feasibility of governance indicators

In order to determine the feasibility of rural governance indicators in Abarkooh town, two cases were taken into consideration. First, the acceptance of governance indicators in the target society was analyzed by t-test and in the next step, Wilcoxon test was used to confirm the feasibility

of governance in the target society in two modes of participation without the influence of governance indicators and participation along with governance.

In the first case, since T-test is a parametric test, it is necessary to check the normality of data distribution before performing it. To investigate this, Kolmogorov Smirnov test was used, and its sig value at the error level of 0.05 equals 0.988 and indicates that, the data have a uniform distribution. T test deals with this issue that, how much the average of a population is less or more than a fixed value. To find out that, the average of the population is higher or less than the tested value, one should refer to the upper limit and lower limit in the test output. If the upper limit and lower limit are both positive, the average of population of that variable is more than the tested value. Also, if the first one is positive and the second one is negative, the average of population is almost equal to tested value. And if both values are negative, the average of the target variable of the population is less than the tested value and these variables are at a low level in the study population (Seydaii et al., 2013).

According to the results of one sample T-test at 0.95% confidence, the scores of items related to rural governance indicators in Abarkooh town are at a desired level. From 24 items related to 7 studied indicators, only 3 items of disclosure of income and assets through holding meetings with a statistical value of 1.613, related to the indicator of transparency and accountability, the item of program-oriented rural district governors and members of Islamic Council with a value of 1.305, related to the indicator of efficiency and effectiveness and the item of informing people about their citizenship rights with a value of 1.351, related to the indicator of awareness were evaluated at a medium level (table 4).

Also, the final scores of governance indicators according to table 5 show that, from all studied indicators, social trust with a value of 7.149 and social justice with a value of 6.017 are at the highest levels and the indicator of rule of law with a value of 4.041 is at the lowest level (table 5).

Table 4. The results of one sample T-test of the governance indicator in Abarkooh town

indicator	object	T test statistic	probability value	Average value	95% confidence interval	
					upper limit	lower limit
transparency and accountability	Informing the villagers about various issues in the village	6.497	0.000	0.4602	0.5997	0.3207
	Requesting opinions from residents regarding rural programs and plans	6.457	0.000	0.4416	0.5763	0.3070
	Clarity of procedures and responsibilities in various rural matters	4.963	0.000	0.4490	0.6272	0.2709
	Creating facilities to receive public complaints	2.728	0.007	0.2260	0.3891	0.0629
	Disclosure of income and assets through holding meetings	1.613	0.012	0.1553	0.3451	-0.034
efficiency and effectiveness	Estimating villagers' satisfaction with the provision of rural services	3.644	0.000	0.2669	0.4111	0.1227
	The level of efficiency in achieving the goals of the projects after implementation	6.363	0.000	0.5791	0.7548	0.4000
	The amount of use of available resources to improve the lives of villagers	3.054	0.000	0.2408	0.3962	0.0856
	The program is centered on villagers and members of the Islamic Council	1.305	0.017	0.0996	0.2500	-0.050
social justice	Participation of the deprived classes in the administration of affairs	5.288	0.000	0.3895	0.5346	0.2445

indicator	object	T test statistic	probability value	Average value	95% confidence interval	
					upper limit	lower limit
	Fair distribution of resources among villagers	8.467	0.000	0.5605	0.6910	0.4302
	The use of female consultants in the administration of affairs	2.92	0.000	0.2037	0.3411	0.0663
awareness	Informing people about their citizenship rights	1.351	0.017	0.1070	0.2631	-0.049
	Informing people about their duties	3.658	0.000	0.2386	0.4839	0.1934
social trust	Criticism of officials	6.872	0.000	0.4862	0.6256	0.3469
	Honesty of officials	4.06	0.000	0.3078	0.4570	0.1586
	Trustworthiness of officials	8.703	0.000	0.6869	0.8424	0.5316
rule of law	Spend the credits within the budget	6.907	0.000	0.5345	0.6870	0.3822
	Managers' use of authority for the benefit of relatives and friends	6.446	0.000	0.5829	0.7609	0.4049
	Action within the framework of the program and tasks	5.440	0.000	0.4007	0.5458	0.2557
acceptance of participation	The power of villagers to influence decisions and general issues of the village	4.887	0.000	0.4379	0.6143	0.2615
	The share of villagers in the management power of the village	7.275	0.000	0.2855	0.3628	0.2082
	Formation of local elected council	6.114	0.000	0.3412	0.4512	0.2314
	The election of the local village manager	2.808	0.005	0.1442	0.2454	0.0431

Table 5. The final scores of governance indicators based on t-test in Abarkooh town

indicator	T test statistic	Significance level	Average value	99% confidence interval	
				upper limit	lower limit
transparency and accountability	5.382	0.000	0.2416	0.3300	0.1532
efficiency and effectiveness	4.458	0.000	0.2713	0.3912	0.1515
social justice	6.017	0.000	0.3048	0.4046	0.2051
awareness	4.494	0.000	0.1970	0.2833	0.1107
social trust	7.419	0.000	0.3866	0.4892	0.2840
rule of law	4.041	0.000	0.1747	0.2599	0.0896
acceptance of participation	5.779	0.000	0.2119	0.2841	0.1397

In order to compare the rate of people's participation in rural affairs of Abarkooh town, Wilcoxon rank test was used before and after applying governance approach (table 6).

To find this out, all indicators were desired and based on this, the sum of the answers given to each indicator was compared before and after applying governance approach. The average rate of participation before identifying governance was

2.35 and it was 2.14 after that. And based on this test, the calculated P at 0.05 alpha level with 95% confidence was greater than 0.05 alpha level and thus there is a significant difference between people's participation before and after identifying governance approach and it shows that, the impact of feasibility of governance indicators on people's participation is at a high level.

Table 6. Wilcoxon test for the significance of the difference in the participation rate before and after the governance

Components	Wilcoxon test results
Rank average before governance	2.35
Rank average after governance	2.14
Calculated Z	-1.152
level of significance	0.248

4. 2. 3. evaluating significance level of the governance indicators' impact on villagers' participation

Chi-square test was used to assess the significance of governance indicators' impact on villagers' participation in Abarkooh town. The results of this test at a 99% confidence level showed a significant impact of rural governance indicators on villagers' participation in rural affairs of Abarkooh town. Since, according to test output, the significance of all indicators was evaluated less than 0.01; according to Chi-square test rules, it showed a significant impact of indicators on villagers' participation. Based on Chi-square output, two indicators of transparency and accountability had the highest impact on people's participation and the indicator of awareness with a statistical value of 76.391 had the lowest impact. From all studied indicators, the indicator of managers' acceptance of villagers' participation with a value of 138.404 was in the second rank of influence, indicator of rule of law with a value of 109.193 and social trust with a value of 102.956 were in third and fourth places of influence respectively (table 7).

Table 7. The significance of the influence of governance indicators on the participation of villagers

indicator	Chi-square statistics	d_f	Significance level
transparency and accountability	148.130	4	0.000
efficiency and effectiveness	82.333	3	0.000
social justice	102.956	2	0.000
awareness	76.391	3	0.000
social trust	85.26	3	0.000
rule of law	109.193	4	0.000
acceptance of participation	138.404	4	0.000

In the following, given the significance of rural governance indicators' impact on villagers' participation, single sample T-test was used to assess the impact of rural governance on villagers' participatory items as a modern rural management approach. The results of this test at a 95% confidence level first confirms the results of Chi-square and significance of governance indicators' impact on the dependent variable of the research; since the statistics, upper and lower limits of 13 out of 15 investigated variables were positive and all items were significant at a 0.05 level. Second, the results showed that, from 15 studied items, the statistical population has evaluated the influence of rural governance on only two variables of participation in financing the cost of carrying out rural projects with a value of -0.717 and participation in the form of free human resources with a value of 0.362 as moderate. In other words, the statistical population has evaluated the impact of rural governance on 13 out of 15 items of rural participation as strong and only two of them as moderate. It is worth mentioning that, among 15 items, the item of villagers' participation in village

construction activities with a value of 9.54 was at the highest level of influence by governance and financing the cost of carrying out rural projects with a value of -0.717 was at the lowest level; therefore, according to T-test output and estimating the statistical values, 12 items were above the average level and positive (upper and lower limits were positive); thus, it can be concluded that, the feasibility of governance in the study area has led to attracting villagers' participation in rural affairs (table 8).

Table 8. Measuring the effectiveness of villagers' participation in rural governance

Indicators of villagers' participation	T test statistic	Significance level	Average value	95% confidence interval	
				upper limit	lower limit
Participation in village construction activities	9.540	0.000	0.7434	1.8970	0.5899
Participating in activities related to revitalizing the environment	4.147	0.000	0.4174	0.2152	0.2500
Participation in activities related to rural services	4.175	0.000	0.4425	0.7471	0.5322
Providing suggestions and comments to managers and planners	3.958	0.009	0.1130	0.3455	0.1194
Participation in local decision-making	8.101	0.000	0.8652	1.0757	0.6548
Participation in village elections (Islamic Council)	2.663	0.008	0.0782	0.3110	0.1544
Monitoring the activities of councils and village councils	2.595	0.002	0.1913	0.2450	0.4276
Criticizing the performance of plans and decisions	8.753	0.000	0.8956	1.0973	0.6940
Informing the problems of the village	7.968	0.000	0.5478	0.6833	0.4124
Criticizing the performance of village officials	5.152	0.000	0.5869	0.8115	0.3625
Membership in non-governmental organizations (NGOs)	2.568	0.004	0.2696	0.3716	0.3107
Participation in village meetings to solve problems	3.643	0.001	0.3783	0.4616	0.3181
Financing the cost of carrying out rural projects	-0.717	0.027	-0.0869	0.1519	-0.3259
Supply Human Resources	-0.362	0.019	-0.0851	0.3884	-0.5288
Providing the necessary physical tools and equipment	2.990	0.029	0.2127	0.2199	0.6454

4. 2. 4. Measuring the relationship between rural governance and villagers' participation

Pearson correlation coefficient and regression analysis were used to carefully examine the effect of each of the indicators of governance "transparency and accountability, efficiency and effectiveness, social justice, awareness, social trust, rule of law, acceptance of participation" as independent variables on villagers' participation in the dimensions of "human resources, financial aid, and land donation" which are (aggregated) as dependent variable and determine the impact of each of these dimensions. Regression analysis is a method for studying the contribution of one or more independent variables in predicting a dependent variable. The correlation test value of 0.712 shows a significant, positive and direct

relationship between the independent and dependent variables of the research. The coefficient of determination and generalized coefficient of determination indicate that, what percentage of changes was explained through the independent variable and this regression model. Here, using a modified coefficient of determination, it can be said that, 69.4% of changes in villagers' participation is related to feasibility of governance principles in the study area; in other words, it can be claimed that, the total of seven independent governance variables estimates more than half of the rural participation variable at the sample level (table 9).

Table 9. Correlation coefficient (R) of regression between governance and participation of villagers

correlation coefficient	coefficient of determination	Adjusted coefficient of determination	Estimated error rate	Sig
0.712	0.694	0.710	0.45286	<0.001

Table 10 shows the results related to the impact rate of each variable in the model and also, the degree of correlation between them based on the B beta coefficient. This coefficient indicates the standardized regression coefficient of each of the independent variables on the dependent variable of the research. Therefore, by using it, it is possible to determine the relative contribution of each independent variable in the model.

Comparing variables reveals that, first, the impact of 5 variables of transparency and accountability, efficiency and effectiveness, awareness, social trust, and acceptance of participation on the dependent variable is significant, while the variables of rule of law and social justice had little or no impact on rural participation due to the fact that, the error level of their t test was higher than 0.05. Second, the variables of transparency and accountability with a score of 0.271, efficiency and effectiveness with a score of 0.245, awareness with a score of 0.146, social trust with a score of 0.145, and acceptance of participation with a score of 0.109 had the highest impact on the dependent variable.

In general, beta B coefficient shows that for an increase of one standard deviation (for example) in the variable of efficiency and effectiveness, the standard deviation of the rural participation will increase by 0.245, and the rest of the independent variables of governance can also be interpreted in the same way.

Table 10. Examining the significance level of independent variables on the dependent variable

indicator	significance level	t	Standard coefficients	Non-standard coefficients	
			Beta coefficient	standard error	B
transparency and accountability	0.000	4.124	0.271	0.03	0.115
efficiency and effectiveness	0.000	4.304	0.245	0.042	0.185
social justice	0.016	2.418	0.146	0.039	0.093
awareness	0.007	2.705	0.145	0.04	0.109
social trust	0.006	1.632	0.109	0.045	0.075
rule of law	0.547	0.602	0.028	0.047	0.028
acceptance of participation	0.227	1.21	0.075	0.047	0.057
dependent variable	0.000	12.856	-	0.082	1.116

According to the results obtained from multivariate regression, it can be said that, there is a significant relationship between the indicators of rural participation and good governance. This means that, there is no significant correlation only between the indicators of rule of law and social justice, while other indicators have a significant correlation, and this shows the connection and alignment between rural participation and good governance.

5. Discussion and conclusion

Today, in progressive societies, the approach of policy makers is transforming from planning for people to planning with people. The tendency to such an approach may be due to the negative impact and

negative results of lack of attention to the role of beneficiaries in centralized decisions. As a result, participation is one of the most important success criteria in planning and without considering its importance, we cannot have much hope for the effectiveness of executive activities. This research has examined the role and position of feasibility of governance in attracting people's participation in Abarkooh city. Indicators such as social trust among villagers and rural managers, social justice in applying villagers' opinions without considering economic status and gender, rule of law, transparency and accountability, awareness, acceptance of villagers' participation and providing participatory grounds by rural managers, and finally efficiency and effectiveness of rural management are important factors in attracting villagers' participation and the approach of rural governance as a modern rural management method has more impact on this matter.

This research is in line with the studies of Heidari Sarban (2019), Norouzi & Ebrahimi (2018), Ahmadi & Cheraghi (2017), Rahmani Fazli et al., (2015) interms of good rural governance; however,

in this study the relation between governance and participation has been examined from a different point of view. According to the results of this study, it was determined that, the highest rate of villagers' participation was in the field of human resources participation and land donation was in second place and financial aid was in the last place due to weak financial base of villagers. Based on single sample T-test, the acceptance level of rural governance indicators in Abarkooh town is at the desired level and it was at a high level for most indicators, especially for indicators of transparency and accountability. According to Wilcoxon test, governance has led to higher participation of rural people in the duties than before. Also, the correlation coefficient above 0.7 and regression coefficient of 0.69 show that, there is a direct and significant relationship between two variables of rural governance and villagers' participation at 99% level. Also, according to Ci-square test it was revealed that, the governance indicators had significant impact on villagers' participation in Abarkooh town. The regression determination coefficient shows that, 69.4% of changes in the total level of rural participation is dependent to the

feasibility of governance in Abarkooh town. On this basis, although rural people of Abarkooh Town do not have a strong economic base for financial affairs and investment, they can play an important role in the field of human resources participation such as intellectual consultation, physical assistance and also creation of local institutions, and they can also be helpful in solving the problems of their living environment and physical and cultural reforms by interacting with rural district governors and council members. Without a doubt, creating a cooperative socio-cultural platform among villagers' through conducting meetings and informing them about the advantages and benefits of participation in rural affairs; providing grounds for acceptance of rural participation in plans and decisions by institutions and authorities and applying people's opinions and suggestions in decision making and planning can play a crucial role in the feasibility of governance in the villages and increasing villagers' participation. Transparency and accountability in executive performance of rural district governors and informing people could be among other solutions in this field.

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Authors' contributions

The authors equally contributed to the preparation of this article**.**

Conflict of interest

The authors declare no conflict of interest.

References

1. Ahmadi, M., & Cheraghi, M. (2017). Evaluation of factors affecting the realization of good rural governance with emphasis on the performance of rural areas, Zanjan. *Journal of Regional Planning, 7*(4), 33-44. [In Persian] https://www.magiran.com/paper/1778370
2. Asadi, Z., Pourramzan, E., & Molaei Hashjin, N. (2016). The Role of Participation in Rural development in Khoshk-e bijar District, Rasht County. *Quarterly Journal of Space Economics and Rural Development*, 5 (15), 61-82. [In Persian] http://serd.khu.ac.ir/article-1-2591-fa.html
3. Atkinson, R. (1998, September). The new urban governance and urban regeneration: managing community participation. In *a conference onCities in the XXIst Century. Cities and metropolis: breaking*

or bridging (pp. 19-21). www.Findariticles.com.
4. Bannet, F. (2004). *Development of social Security. Social Policy Review*. University of Bristol. Grear Britain. The Policy Press.
5. Bemile, R., & Boateng, R. (2011). Promoting Good Governance through Information and Communication Technology in Resource-Poor Contexts, Conference Paper-Proceedings of the Africa Digital Week, July 25-29, Alisa Hotel, Accra, Ghana: African Institute of Development Informatics and Policy.
6. Ghadermarzi, H., & Jamini, D. (2017). Evaluating the Performance of New Rural Management with a Good Governance Approach and Presenting Solutions for its Improvement in Rural Areas (Case Study: Shaho District, Ravansar County). *Journal of Research and Rural Planning*, 6, 2, Pp 111-123. [In Persian]. http://dx.doi.org/10.22067/jrrp.v5i4.57099
1. Giddens, A. (2006). *Sociology*. Fifth Edition. Cambridge: Polity Press.
7. Glass, J. J. (1979). Citizen participation in planning: the relationship between objectives and techniques. *Journal of the American Planning Association*, *45*(2), 180-189. https://doi.org/10.1080/01944367908976956
2. Halfani, M. S., McCarney, P. L., & Rodríguez, A. (1995). Towards and unerestanding of Governance: The emergency Of an idea and its implications for urban research in developing contries, University of the Western Cape Library.
3. Haji Alizadeh, J., Mousavi, Ch., & Zarafshan, A. (2016). An analysis on the correlation between the model of proper urban governance and the level of citizen participation in Shiraz. *Quarterly Journal of Geographical Space*, 16(54), 237-260. [In Persian] http://geographical-space.iau-ahar.ac.ir/article-1-2545-fa.html
4. Heidari Sareban, V. (2019). Evaluate a good local rural management model based on good governance branches (Case study: Meshginshahr city). *Journal of Geography and Development, 57*, 133-154. [In Persian] https://gdij.usb.ac.ir/article_4985.html
5. Hekmatnia, H., & Mousavi, M. N. (2002). Historical Analysis of Citizens' Participation in the Administration of Iranian Cities. *Journal of Geographical Research, 80*, 45-60. [In Persian] http://ensani.ir/fa/article/80152
6. Hesam, M., Rezvani, M.R., & Ashor, H. (2015). The Villagers satisfaction of Dehyari (Rural Management Unit) performance with good governance approach (The case study: the villages of south district Gorgan County). *Journal of Geographical Planning of Space, 4*(14), 99-128. [In Persian] http://gps.gu.ac.ir/article_9538.html
7. Kaufmann, D., Kraay, A., & Mastruzzil, M. (2007). The Worldwide Governance Indicators Project: Answering the Critics. *The World Bank, Washington DC, Documents & Reports*, 1, Pp 200-250. DOI:10.1596/1813-9450-4149
8. McGill, R. (1998). Urban Management in Developing Country. *Cities*, 15, 6, Pp 463-471. https:// doi.org/ 10.1016/S0264-2751(98)00041-9
9. Mdee, A., & Thorley, L. (2016). Good governance, local government, accountability and service delivery in Tanzania. *Economic and Social Research Council*. https://www.intrac.org/wpcms/wp-content/uploads/2016/11
10. Murdoch, J., & Abram, S. (1998). Defining the limits of community governance. *Journal of rural studies*, *14*(1), 41-50. https://doi.org/10.1016/S0743-0167(97)00046-6
11. Norouzi, A., & Ebrahimi, E. (2018). Investigating realization of good governance indicators in rural areas of Lenjan County. *Journal of Physical Development Planning*, 3(6), 93-109. [In Persian] https://psp.journals.pnu.ac.ir/article_5027.html
12. Plumptre, T. W., & Graham, J. (1999). Governance and good governance: international and aboriginal perspectives. https://www.files.ethz.ch/isn/122184/govgoodgov.pdf
13. Rabbani, R., Abbaszadeh, M., & Ghasemi, V. (2007). The effect of economic and social welfare on the level of citizen participation in urban affairs (studied: Isfahan). Ferdowsi University Social Sciences Journal, 10, 73-99. [In Persian] https://elmnet.ir/Article/649071-45286/
14. Rahmani Fazli, A., Monshizadeh, R., Rahmani, B., & Alipourian, J. (2017). Good Governance Based

Rural Management and its Role in Sustainable Rural Development (Case Study: A Comparison between Central District of Kuhdasht and Lavasanat District of Shemiranat). Journal of Research and Rural Planning, 6(17), 133-152. [In Persian] https://jrrp.um.ac.ir/article_29404.html

15. Rahmani Fazli, A., Sadeghi, M., & Alipourian, J. (2015). Theoretical Foundations of Good Governance in the Process of New Rural Management. *Quarterly Journal of Urban Management*, 37, 43-53. [In Persian] https://elmnet.ir/Article/1446904-49769/
16. Roknodin Eftekhari, A.R., Azimi Amoli, J., Pourtaheri, M., & Ahmadipoor, Z. (2012). Clarification of the Relation between Good Governance and Sustainable Rural Development in Rural Areas at Mazandaran Province. *Journal of Rural Research*, 4, 1-34. [In Persian] https://jrur.ut.ac.ir/article_24246.html
17. Rose, J. (2006). Independent Review of the Teaching of Early Reading. DfES. https://dera.ioe.ac.uk/5551/2/report.pdf
18. Rudra, P. P. (2011). Good governance and human development: Evidence form Indian States. *Journal of Social and Development Sciences, AMH International*, 1, 1, Pp 1-8. DOI: 10.22610/jsds.v1i1.622.g622
19. Salimi, F. (2010). Social Participation in School. *Journal of Social Science Education Development*, 13(3), 58-63. [In Persian] https://www.noormags.ir/view/fa/articlepage/36234/58/text
20. Sardarnia, Kh. (2011). The effect of social capital on good governance. *Political and Economic Information Monthly*, 260, 145-132. [In Persian] http://ensani.ir/fa/article/89516
21. Sarrafi, M., & Taghizadeh, F. (2008). Regional Network Strategy, Framework for Regional Development in the Country. *Journal of Earth Sciences Research*, 71-89. [In Persian]
22. Seydaii, S. E., Ghanbari, Y., Jemini, D., & Bashaq, M. R. (2013). Agricultural Sustainability Assessment in Rural Areas (Case Study: Rural Areas in the Central District of Ravansar County). *Journal of Geography and Environmental Sustainability*, 6, 87-106. [In Persian] https://journals.razi.ac.ir/article_208.html
23. UN- HABITAT. (2009). Urban governance index (UGI) a tool to measure progress in achieving good urban governance. Available in www.unhabitat.org.
24. Weldeabrha, N. G. (2017). Decentralized Good Governance in Rural Land Administration: The Case of Hawzen Woreda. *International Journal of Engineering Development and Research*, 5(2), 131-142.
25. World Bank. (2017). *Governance and the law*. Washington, DC.
26. Yaghfouri, H., Hadiani, Z., & Rafieian, S. (2014). A Study of the Capacity and Capabilities of Citizens' Participation in Fasa Urban Affairs. *Journal of Geography and Urban Development*, 34, 98-83. [In Persian] https://gdij.usb.ac.ir/article_1434.html
27. Young, S., Soparth, P., & Sophal, E. (2011). Local Good Governance of Rural Infrastructure Development Planning: Case Studies of Commune Councils in Cambodia. *International Journal of Environmental and Rural Development*, 2, 59–64. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2276607

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Original Article

ارزیابی تحقق‌پذیری مشارکت روستایی مبتنی بر شاخص‌های حکمروایی خوب (مورد مطالعه: شهرستان ابرکوه)

مهران فاطمی [۱]- سعیده مؤیدفر [۲*]- حجت رضایی [۳]

۱- استادیار اقلیم شناسی، دانشگاه میبد، میبد، ایران
۲- دانشیار جغرافیا و برنامه‌ریزی شهری، دانشگاه میبد، میبد، ایران
۳- دکتری جغرافیا و برنامه‌ریزی روستایی، دانشگاه تهران، تهران، ایران

چکیده مبسوط

۱. مقدمه

توسعه روستایی، فرایندی چندبعدی و متضمن بهبود مستمر زندگی و کیفیت آن در جامعه روستایی است؛ به‌بیان‌دیگر توسعه روستایی، راهبردی است که برای بهبود زندگی اقتصادی و اجتماعی روستاییان فقیر تدوین‌شده است. امروزه بیشتر صاحب‌نظران توسعه روستایی معتقدند که دستیابی به توسعه پایدار بدون مشارکت آحاد مردم ممکن نیست و بدون تردید با مشارکت مردم دوره گذار توسعه، تسهیل، تسریع و کم هزینه تر می‌شود. حکمروایی با مردم‌سالاری و توسعهٔ اجتماعی اقتصادی، ارتباط مستقیم و تنگاتنگی دارد و امروزه بحث اصلی در گفتمان توسعه به‌حساب می‌آید یا به‌عبارت‌دیگر، حکمروایی روستایی را امری جوهری در فرآیند توسعهٔ پایدار روستایی به‌حساب آورده‌اند تا آنجا که سازمان ملل، آن را تنها عامل مهم در کاهش و محو فقر و پیشبرد توسعه به شمار آورده است.

این پژوهش سعی دارد که ضمن بررسی و تحلیل میزان و چگونگی تحقق شاخص‌های حکمروایی خوب در نواحی روستایی شهرستان ابرکوه، عامل مشارکت را نیز موردبررسی قرار داده و تأثیر و تأثرات آن را مورد ارزیابی قرار دهد و به دنبال پاسخگویی به این سؤالات خواهد بود:

تا چه حد شاخص‌های حکمروایی خوب در نواحی روستایی شهرستان ابرکوه تحقق‌یافته است؟

تأثیر استقرار شاخص‌های حکمروایی خوب در نواحی مورد نظر بر مشارکت مردم روستایی چه اندازه بوده است؟

۲. مبانی نظری تحقیق

برای تعریف مشارکت، به بیان سه تفسیر در خصوص مشارکت می‌پردازد که عبارت‌اند از: مشارکت به‌عنوان سهم داشتن، مشارکت به‌عنوان سازمان‌دهی و مشارکت به‌عنوان توانمندسازی. حکمروایی، اعمال قدرت سیاسی، اداری و اقتصادی در مدیریت امور کشورها و در سطوح مختلف (کلان تا محلی) است که در قالب یک فرآیند، افراد و گروه‌ها می‌توانند به منافع خود دست یابند. درواقع حکمرانی خوب، مدیریت کارآمد امور عمومی از راه برپا کردن یک حکومت و قواعد مشروع و قانونی در راستای پیشبرد ارزش‌های اجتماعی افراد و گروه‌ها است. حکمروایی خوب روستایی عبارت است از تأثیرگذاری همهٔ ارکان دخیل روستایی بر مدیریت روستایی، با تمام سازوکارهایی که با آن‌ها بتوان به‌سوی تعالی و پیشرفت روستا و مردم روستایی حرکت کرد؛ به‌عبارت‌دیگر، به اجرا درآوردن تصمیمات و سیاست‌های مردم روستایی، هم سو با منافعشان و سازگار با منافع ملی، منطقه‌ای و محلی است .

در این میان نقش دولت‌ها بیشتر در چارچوب فراهم‌کننده بسترهای سخت‌افزاری و نرم‌افزاری، ازجمله هماهنگ‌سازی و پاسداری از قوانین و میثاق‌های ملی محدود می‌شود و از دخالت مستقیم در تصمیم‌گیری و همچنین اداره و اجرای امور مربوط به زندگی مردم کاسته می‌شود.

*. نویسندهٔ مسئول:
دکتر سعیده مؤیدفر
آدرس: گروه جغرافیا، دانشکده علوم انسانی، دانشگاه میبد، میبد، ایران
پست الکترونیکی: Email: moayedfar@meybod.ac.ir

۳. روش تحقیق

پژوهش حاضر ازنظر ماهیت کاربردی می‌باشد. روش تحقیق آن توصیفی- تحلیلی و داده‌های آن از طریق منابع کتابخانه‌ای شامل (فیش‌برداری، اینترنت) و میدانی (پرسشنامه، مصاحبه) فراهم گردیده است. جامعه آماری تحقیق شامل ساکنین کلیه روستاهای شهرستان ابرکوه، دهیاران و اعضای شورای اسلامی روستایی این شهرستان می‌باشند. پرسشنامه‌ها از دو بخش سؤالات عمومی و اختصاصی تشکیل‌شده است. سؤالات اختصاصی در ابعاد شفافیت و پاسخگویی، کارایی و اثربخشی، عدالت اجتماعی، آگاهی، اعتماد اجتماعی، قانون‌مداری، پذیرش مشارکت و به‌صورت طیف پنج گزینه‌ای لیکرت طراحی‌شده است. روایی پرسشنامه بر اساس نظر کارشناسان بررسی و از روش آلفای کرونباخ برای تعیین پایایی پرسشنامه با استفاده از نرم‌افزار SPSS استفاده‌شده که ضریب به‌دست‌آمده ۰/۸۷ بوده است. برای تجزیه‌وتحلیل داده‌ها نیز از آمار توصیفی (فراوانی، درصد فراوانی، میانگین) و آمار استنباطی (آزمون T تک نمونه‌ای، آزمون خی دو، ویلکاکسون، ضریب همبستگی پیرسون و ضریب تعیین رگرسیون) استفاده‌شده است.

۴. یافته های تحقیق

براساس نتایج به دست آمده از رگرسیون چندمتغیّره می‌توان گفت، بین شاخص‌های مشارکت روستایی و حکمروایی خوب، رابطهٔ معناداری وجود دارد. بدین معنا که فقط در شاخص‌های قانون-مداری و عدالت اجتماعی همبستگی معناداری دیده نمی‌شود، در حالی که سایر شاخص‌ها از همبستگی معناداری برخوردارند و این امر نشان‌دهندهٔ ارتباط و همسویی بین مشارکت روستایی و حکمروایی خوب است.

۵. بحث و نتیجه گیری

در این پژوهش به بررسی نقش و جایگاه تحقق حکمروایی بر جذب مشارکت مردم شهرستان ابرکوه پرداخته‌شده است. شاخص‌هایی همچون اعتماد اجتماعی مابین روستاییان و مدیران روستایی، عدالت اجتماعی در کاربست نظرات روستاییان بدون در نظر گرفتن جایگاه اقتصادی و جنسیت، قانون‌مداری، شفافیت و پاسخگویی، آگاهی، پذیرش مشارکت روستاییان و فراهم نمودن زمینه مشارکتی روستاییان از طریق مدیران روستایی و درنهایت کارا و اثربخش بودن مدیریت روستایی از عوامل مهم در جذب مشارکت روستاییان بوده و رویکرد حکمروایی روستایی به‌عنوان روش نوین مدیریت روستایی بر این امر تاثیر بیشتری دارد.

بر اساس آزمون T تک نمونه‌ای، سطح پذیرش شاخص‌های حکمروایی روستایی در شهرستان ابرکوه در سطح مطلوبی قرار دارد و در عمده شاخص‌ها بخصوص شاخص شفافیت و پاسخگویی در حد بالایی بوده و بر اساس آزمون ویلکاکسون، حکمروایی توانسته باعث مشارکت بیشتر مردم روستایی در امور محوله نسبت به قبل گردد. همچنین ضریب همبستگی بالای ۰/۷ و ضریب رگرسیون ۰/۶۹ نشان می‌دهد که مابین دو متغیر حکمروایی روستایی و سطح مشارکتی روستاییان در سطح ۹۹ درصد رابطه مستقیم و معناداری وجود دارد. همچنین بر اساس آزمون خی دو مشخص گردید که شاخص‌های حکمروایی تأثیر معناداری بر مشارکت روستاییان در شهرستان ابرکوه داشته‌اند. ضریب تعیین رگرسیون نیز نشان می دهد که ۶۹.۴ درصد تغییر در سطح کل مشارکت روستاییان به سطح تحقق حکمروایی در شهرستان ابرکوه وابسته است.

بر این مبنا اگرچه مردم روستایی شهرستان ابرکوه، بنیه اقتصادی زیادی برای مشارکت در امور مالی و سرمایه گذاری ندارند، ولی در زمینه مشارکت نیروی انسانی اعم از مشورت فکری، کمک فیزیکی و همچنین ایجاد نهادهای محلی می‌توانند در تعامل با دهیاران و اعضای شوراها در رفع مشکلات محیط زندگی خود و اصلاحات کالبدی و فرهنگی نقش داشته باشند.

کلید واژه ها: مشارکت، حکمروایی خوب، معیارهای حکمروایی، شهرستان ابرکوه.

تشکر و قدردانی

پژوهش حاضر حامی مالی نداشته و حاصل فعالیت علمی نویسنده است.

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Original Article

Analysis of Agricultural Student's Rural Entrepreneurial Intentions Based on the Extended Theory of Planned Behavior

Maryam Mousivand [1]*, Safeallah Safaei [2], Pouria Ataei [3]

1-Assistant Prof. in Management, Payame Nour University, Tehran, Iran.
2- Assistant Prof. in Social Sciences, Payame Nour University, Tehran, Iran.
3- Ph.D., in Agricultural Extension and Education. Tarbiat Modares University, Tehran, Iran.

Abstract

Purpose- Since the development of entrepreneurial activities in rural areas reduces many initial costs, and because the agricultural production is centered in rural areas, agricultural graduates can make closer and easier relationships with beneficiaries. Therefore, the current research was conducted aimed at analyzing the rural entrepreneurial intentions of agricultural students of Hamadan University based on the extended theory of planned behavior.

Design/methodology/implications- The population of the study were all senior agricultural students of Bu Ali Sina University, Hamadan (N = 420). The simple random sampling method and Krejcie and Morgan table were used respectively to sample the research population and to determine the sample size (n = 200). A researcher-made questionnaire was used to collect data. The face and content validity of the questionnaire was confirmed by a panel of experts. To verify the reliability of the research tool, a pilot study and the calculation of the ordinal theta coefficient were also conducted.

Findings- The results of the confirmatory factor analysis showed that the indicators used to measure the latent attributes studied in this research are consistent with the factor structure and the theoretical basis of the research. The results showed that three main components of TPB (attitude, perceived behavioral control and social norms) had a positive and significant effect on rural entrepreneurial intentions of students, which predicts 51% of the variance of rural entrepreneurial intentions. In addition, adding six entrepreneurial skills to the model, the predictive power of TPB increased by 19%.

Research limitations/implications- One of the most important limitations was the accurate assessment of the entrepreneurial skills.

Practical implications- Considering the interaction of motivational and skill components, it can be inferred that students' confidence in their entrepreneurial abilities and skills in order to launch and manage a new business gives them the power to have creative intentions and decisions to start a new activity .

Originality/value- This study contributed to integrate skills and behavioral components for improving the rural entrepreneurial intentions of agricultural students. The results contribute to enriching the literature on rural entrepreneurial intention. This study documents the entrepreneurial intention and skills as important precursors to students' decision to create new agricultural business.

Keywords- Rural entrepreneurial intentions, Theory of planned behavior, Agricultural students, Entrepreneurship education.

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Corresponding Author:
Taghilou, Aliakbar, Ph.D.
Address: Department of Management. Faculty of Economy, Payame Noor University, Tehran, Iran
Tel: +989189496765
E-Mail: r.mousivand@pnu.ac.ir

1. Introduction

Currently, one of the most important challenges in Iran is the issue of the employment of university graduates and the creation of job opportunities for this group. This challenge is more evident among graduates of agricultural fields. This is while the lack of job opportunities and as a consequence the unemployment is one of the concerns of agricultural graduates (Zarifian et al., 2014; Aliabadi et al., 2017; Khazaei Kohper et al., 2021). Also, the estimates show that the agricultural labor market's need is at a maximum of 110,000 graduates educated in agricultural fields. While every year about 230,000 students are graduated from agricultural discipline in the country's universities, but according to this, every year, about 25 to 52% of the graduates of this sector remain unemployed (Vatankhah and Rezaei Moghadam, 2014). Meanwhile, various researches have confirmed that entrepreneurship can improve innovation, create job opportunities, increase productivity and generally cause comprehensive development in any country. This has caused countries to use entrepreneurship as a tool to deal with unemployment (Aliabadi et al., 2016; Mousivand et al., 2016) and considered it as a national priority by governments around the world (Fairlie and Holleran, 2012; Amofah & Saladrigues, 2022). Village is one of the areas where agricultural graduates can create and develop their innovative business activities. As the development of entrepreneurial activities in rural areas reduces many initial costs, and because the center of agricultural production is located in rural areas, agricultural graduates can establish closer and easier relationships with beneficiaries. On the other hand, 96% of water and soil resources are located in rural areas, and the existence of this potential can lead agricultural graduates to these areas to create entrepreneurial businesses. The transition of entrepreneurial businesses by agricultural graduates to rural areas can be considered as a very important step in rural development. From an alternative perspective, to overcome the economic-social issues facing rural communities, the entrepreneurial approach has been considered as one of the important strategies of rural development. Therefore, it can be argued that promoting entrepreneurship by university graduates in rural areas is a new approach in development theories for empowering graduates and building capacity in rural areas in order to turn the current life pattern into a desirable and decent human pattern, reduce the urban-rural gap, create economic, social, environmental and institutional equality and at the same time it is regarded as an important tool to achieve sustainable development.

The entrepreneurial process begins when a person decides to launch a new business. Therefore, in order to promote and develop entrepreneurship better, it is necessary to know why and how a group of people decide to launch a business and some don't. Universities are social institutions which can be the predisposing factor to develop entrepreneurs. Through entrepreneurship promotion and entrepreneurship education, universities can encourage students to develop entrepreneurial behavior (Cui & Bell, 2022; Ahmadi et al., 2013; Arasti and Saeed Benadaki, 2012; Mardanshahi et al., 2013; Mousivand et al., 2017; Mohammadi et al., 2019). This is while, from the students' point of view, universities do not encourage new ideas, they do not acquire entrepreneurial skills in the university, and the socio-economic conditions are not favorable to launch a business (Jaafari Moghadam et al., 2016; Karimi & Ataei, 2022a). From another point of view, researchers found that one of the most important challenges of entrepreneurship development is the lack of entrepreneurial skills and lack of information (Naseri et al., 2021; Parvin et al., 2012; Ataei et al., 2020a). This is while the mismatch of the educational content with the requirements of the labor market, the lack of attention to entrepreneurship education and the weak entrepreneurial skills of students and graduates have been the main reasons for the growth of unemployment among graduates (Kheiri et al., 2011; Ataei et al., 2020b). If there is no match between the educational content received and students' skills, a conflict will be created between students' attitudes and intentions to step into the entrepreneurship process. If graduates possess sufficient and varied entrepreneurial skills, their intentions to start entrepreneurial businesses will increase. In other words, entrepreneurial skills are one of the main infrastructures of entrepreneurial behavior. Because if graduates are not equipped with entrepreneurial skills, their ability to create an entrepreneurial business will decrease. On the other hand, based on cognitive models, one of the most important predictors of people's entrepreneurial behavior is their entrepreneurial intention. Thus, Kruger et al. (2000) have stated that entrepreneurship is a deliberate process in which people, with their cognition and perception, plan to perform the behavior

of identifying opportunities, creating a business, or developing it. Entrepreneurial intention refers to a state of mind that directs and guides one's activities towards business development and execution (Bird, 1998; Fauchald et al., 2022). In other words, entrepreneurial intention is a conscious state of mind that occurs before the action and guides the intention to start a business as an objective (Ajzen, 1991). Many researches have pointed that entrepreneurial intention is one of the main infrastructures of entrepreneurial behavior (Kautonen et al., 2015; Mat et al., 2015; Espíritu-Olmos and Sastre-Castillo, 2015; Ismail et al., 2015; Do and Dadvari, 2017; Barba-Sanchez and Atienza-Sahoquillo, 2018). Therefore, identifying the psychological characteristics and necessary skills that promote the entrepreneurial intention of people, can create a suitable background for the emergence of entrepreneurial behaviors.

Accordingly, the present research was conducted aiming to explore the rural entrepreneurial intention of agricultural students of Hamadan University based on the psychological and skilling characteristics of the students. This research can create a deeper insight into the entrepreneurial characteristics of students and the relationships between cognitive-social, skill elements and rural entrepreneurial intention. Also, planners and educators can use its findings to formulate effective educational strategies for the development and promotion of entrepreneurship in the agricultural higher education system, and finally, it will greatly help the employment of graduates in rural areas**.**

2. Research Theoretical Literature

One of the most common and comprehensive behavioral models used in behavioral research is the theory of planned behavior (TPB). This theory was presented by Ajzen (1991). The TPB has been used to explain and predict intention and behavior in various research areas such as medical sciences, psychology, agriculture, and marketing (Bergevoet et al., 2004; Schnusenberg et al., 2012; Jiang et al., 2013; Peyman et al., 2015; Muradhaseli et al., 2017; Zeweld et al., 2017; Ataei et al., 2021; Yaghoubi Farani et al., 2021; Karimi & Ataei, 2022b; Safi Sis et al., (2022). The effectiveness and capability of this model in predicting entrepreneurial intention and behavior has also been proven in various studies (Obschonka et al., 2010; Iakulova et al., 2011, Karimi et al., 2014, Schlaegel & Koening, 2014; Malebana, 2014; Lortie & Castogiovanni, 2015). According to TPB, the most important determinant of entrepreneurial behavior is the entrepreneurial intention. Entrepreneurial intention is also influenced by three components: 1) subjective norm, that is the social pressure perceived by the person whether to perform the behavior or not, 2) attitude towards the behavior, that is a person's positive or negative evaluation of the behavior, 3) Perceived behavioral control, that is a person's perception of the degree of difficulty or ease of behavior and the extent of success in performing or not performing that behavior (Linan & Chen, 2009)**.**

A review of literature shows that the entrepreneurial intention of students in different universities varies significantly. So, in some cases students have a weak or medium entrepreneurial intention (Maheshwari & Kha, 2022; Karimi et al., 2014; Ghiasi, 2015; Karimi, 2015; Rezaei et al., 2015; Shakiba et al., 2015; Hosseini and Khosravi Lagab, 2016). The results of the research by Ghanati et al., (2016) and Martins et al., (2022) have specified that the perceived behavioral control had a greater effect on the entrepreneurial intention of students. In his research, Karimi (2015 & 2016) concluded that the attitude towards entrepreneurship and the perceived behavioral control have a significant relationship with the entrepreneurial intention of students. Seif et al. (2013) considered two variables of subjective & social norms and entrepreneurial experience as factors influencing the entrepreneurial intention of medical students. Karimi et al. (2014) also believe that subjective norms and dynamic personality have an indirect and positive effect on students' entrepreneurial intention through behavioral control and entrepreneurial attitude. Ghiasi (2015) supported the mediating role of entrepreneurial attitude in the relationship between belief in self-efficacy and entrepreneurial intention. Rezaei et al. (2016) also considered two variables of perceived behavioral control and subjective norms to be influential on entrepreneurial intention. Other studies have also pointed out the strong predictive feature of entrepreneurial intention by the elements of the TPB (Nwankwo et al., 2012; Ruizalba Robledo et al., 2015)**.**

In their research, used TPB to predict entrepreneurial intention among students from developing and developed countries. Their findings indicated that students from developing countries had a stronger entrepreneurial intention compared to students from developed countries. Also, students from developing countries scored higher in factors affecting entrepreneurial intention (attitudes, subjective norms

and perceived behavioral control) compared to students from developed countries. Moriano et al (2012) conducted a cross-cultural research using TPB in six different countries, including Iran, the result of which showed a direct relationship between attitude and entrepreneurial intention. Fini et al. (2012) have confirmed in their research that the variable of entrepreneurial attitude can create a significant relationship with entrepreneurial intention along with other variables related to entrepreneurship such as personal skills and entrepreneurial skills. The results of the research by Tshikovhi and Shambare (2015) on the entrepreneurial intention of students in South African universities and the factors affecting it showed that there was a positive and significant relationship between personal attitudes and the level of learning and entrepreneurial knowledge with the intention of students to become entrepreneurs. Liana et al. (2011) have also stated that the variables of attitude towards entrepreneurial behaviors, tendency to learn, education and perception towards controlling entrepreneurial behavior are also among the variables affecting entrepreneurial intention. Ambad and Damit (2016) in their study on students concluded that individual attitude, perceived behavioral control and perceived relative support are predictors of students' entrepreneurial intention**.**

Based on two types of entrepreneurial approaches (psychological approach and behavioral approach), the phenomenon of entrepreneurship is influenced by individual attributes and activities of the entrepreneur. In the psychological approach, the inherent characteristics of people determine the process of creating an entrepreneurial business. But in the behavioral approach, the phenomenon of entrepreneurship is considered as a process that is created in an innovative and entrepreneurial business. Nevertheless, the point of similarity of both approaches is the entrepreneurial skills of people. In other words, in both psychological and behavioral approaches, entrepreneurial skills are the basics of business creation (Wortman, 1990). It can be argued that for a person to become an entrepreneur, in addition to developing psychological characteristics, acquiring entrepreneurial skills is also necessary and is considered as an important factor in the emergence and success of a business (Ladzani and Van Vuuren, 2002; Paliwal et al., 2022). Some of these skills include knowledge of business plan, communication, acquaintance with legal and commercial rules and regulations, planning, team building and marketing (Sadeghi and Malkinia, 2013; Hosseininia et al., 2017; Shahiwala, 2017; Din et al., 2016). The knowledge of writing a good business plan reveals the professionalism of the entrepreneur and his acquaintance with the market. Therefore, having enough knowledge to develop a business plan is an important skill. Team building is one of the skills that entrepreneurs must master. A dynamic and synergistic team is built based on the existence of a common ideal and an atmosphere of trust (Feizbakhsh and Abdullahi, 2009). One factor which always slows down the process of creating a business is the strict and restrictive laws and regulations. As a result, skills such as entrepreneurs acquaintance with the legal issues of initiation and managing businesses, tax laws, obtaining facilities, export laws, etc. are essential. Marketing is considered as an important part of entrepreneurial skills. Entrepreneurs should have the ability to evaluate the competitive environment and to find the increasing needs of the target market (Hiserich and Peters, 2019). The ability to create a network and use calls and communications is another communicative skill of entrepreneurs. Therefore, the ability to communicate with customers, social interactions, and using different sources and information channels are among the subsets of entrepreneurs' communicative skills. Entrepreneurs always have great ideas which require careful planning to achieve success. Effective planning is the basis of running a business. Effective programs are prepared based on available resources and goals. The planning process includes choosing a special strategy among the options (Kahan, 2013)**.**

Most of the research conducted using TPB focused on the effects of personality and psychological factors on entrepreneurial behavior and intention, while the important role of entrepreneurial skills has often been neglected. This is despite the fact that entrepreneurial skills can underline the emergence of intention and as a result, the entrepreneurial behavior among university graduates. Accordingly, six knowledge skills of business plan, communication, acquaintance with legal and commercial rules and regulations, planning, team building and marketing were considered. An appropriate way to combine both perspectives is to study two groups of psychological and skill variables in a comprehensive model. Therefore, the main goal of the current research is to examine the relationship between these factors with the entrepreneurial intention of students by incorporating entrepreneurial skills within the theory

of planned behavior in two parts of the original model and the extended model in order to gain a deeper understanding of the process of creating a new business and the rate of predictability of the students' entrepreneurship intentions in two stages. Based on this, the theoretical framework of the research was developed in Figure (1).

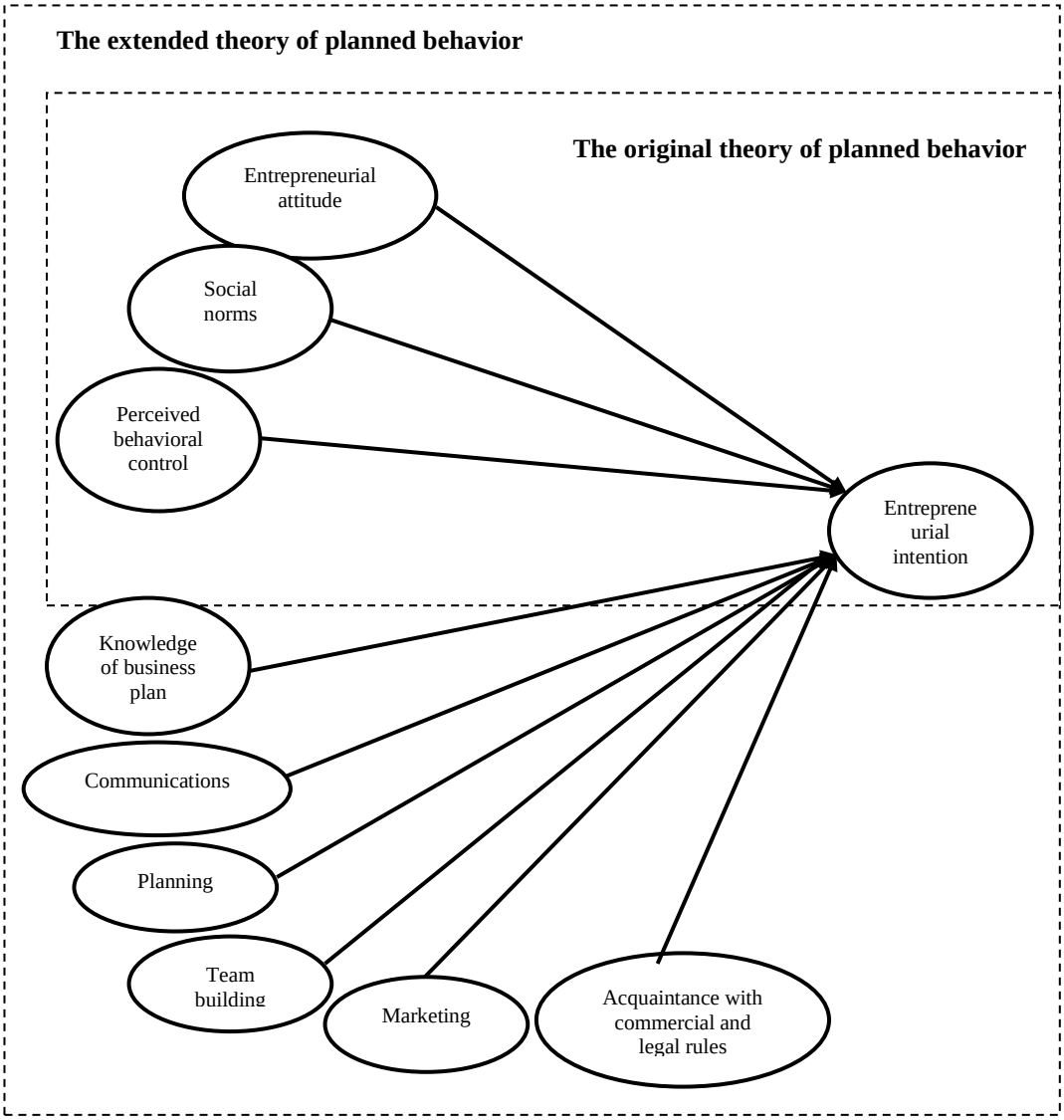

Figure 1. theoretical model of the research

3. Research Methodology

This is an applied research. Because its results are useful for planners and officials of higher education and policy makers of rural society. In such a way that it makes officials aware of the level of entrepreneurial skills of students and their intentions for innovative and entrepreneurial activities in rural areas, as well as the factors affecting it. Also, rural policy makers, knowing the entrepreneurial skill-psychological condition of the graduates, can provide them with the necessary background for the development of entrepreneurial activities. This research is retrospective temporally; because the data collected is related to the events that occurred in the past. It has been quantitative paradigmatically. Also, the intended research is non-experimental in terms of controlling variables, "causal-relational" and "descriptive-correlational" in terms of statistical operations. So, to collect information, a survey technique was used.

The understudied population in this survey was all senior students of the faculty of Agriculture from Bu Ali Sina University in Hamedan. According to the statistics obtained from Bu Ali Sina University, the total number of senior students in agriculture was 420, which constituted the statistical population of the research. A simple random sampling method was used to sample the research population. To determine the sample size, Krejcie and Morgan's table (1970) was used. According to this table and the statistical population, the sample size of 200 students was estimated.

A researcher-made questionnaire was used to collect data related to the research sample. The questionnaire designed in this research included elements of the theory of planned behavior, entrepreneurial skills and demographic characteristics of students. In the first part of the questionnaire, to measure the entrepreneurial skills of students (knowledge of business plan, communication, team building, acquaintance with legal and commercial laws and regulations, marketing and planning) a five-point Likert scale (very low = 1 to very high = 5) and to measure the elements of TPB (entrepreneurial attitude, social norms, perceived behavioral control and rural entrepreneurial intention) a five-point Likert scale (completely disagree = 1 to completely agree = 5) was used.

The face and content validity of the questionnaire was confirmed by a panel of entrepreneurship experts. To verify the reliability of the research tool, a pilot study was conducted and 30 questionnaires were completed by students outside the statistical population and the ordinal theta coefficient was calculated. Table (1) shows the ordinal theta coefficient values of the research variables. After data was collected, the information obtained by completing the questionnaires was analyzed using SPSS23 and AMOS23 statistical software. Also, structural equation modeling was used to analyze students' rural entrepreneurial intention.

Table 1. Ordinal theta values of research variables

No.	Variables	Number of items	Ordinal theta
1	knowledge of business plan	5	0.81
2	Communication	5	0.79
3	Acquaintance with legal and commercial laws and regulations	3	0.86
4	Planning	4	0.73
5	Team building	5	0.85
6	Marketing	5	0.84
7	Entrepreneurial attitude	5	0.66
8	Social norms	3	0.72
9	Perceived behavioral control	5	0.62
10	Rural entrepreneurial intention	10	0.85

4. Research findings

4.1. Demographic characteristics

The analysis of demographic characteristics of the students showed that 50.5% of them were women and 49.5% were men. In terms of age, the majority of students were between 19 to 23 (53.5%) and 24 to 29 (36%), and 81% of agricultural students were studying at the bachelor's level. The GPA of most students was between 19-20 (32%) and 14-15 (29.5%). In terms of the employment variable, 22.5% of the students were employed, and 82% of their jobs were not related to their field of study. Also, only 23% of students had participated in entrepreneurship courses.

4.2. Examining the relationship between elements of TPB and entrepreneurial skills

To examine the relationship between the elements of TPB and students' entrepreneurial skills, the Spearman's correlation was used. The results of this test showed that the components of entrepreneurial attitude, perceived behavioral control, social norms and entrepreneurial skills of agricultural students had a significant relationship (at 0.01 level) with the entrepreneurial intention of rural students of the faculty of Agriculture (Table 2). This finding is consistent with the results of the research by Seif et al. (2013), Karimi (2015 and 2016), Ghanati et al. (2016), Liana et al. (2011), Ambad and Dumit (2016). In their studies, they have confirmed the significant

relationship between the components of TPB and rural entrepreneurial intention**.**

X1= knowledge of business plan
x2= communication
x3= acquaintance with legal and commercial laws and regulations
X4= planning
x5= team building
x6= marketing
x7= entrepreneurial attitude
X8=social norms
x9=perceived behavioral control
x10=rural entrepreneurial intention

Table 2. Correlation between the elements of TPB and entrepreneurial skills

Research variables	X_1	X_2	X_3	X_4	X_5	X_6	X_7	X_8	X_9	X_{10}
X1	1									
X2	0.66**	1								
X3	0.65**	0.64**	1							
X4	0.45**	0.44*	0.43**	1						
X5	0.34**	0.38**	0.31**	0.33**	1					
X6	0.56**	0.63**	0.62**	0.40**	0.45**	1				
X7	0.20**	0.23**	0.18*	0.32**	0.22**	0.22**	1			
X8	0.14*	0.17*	0.19**	0.26**	0.23**	0.22**	0.40**	1		
X9	0.40**	0.38**	0.37**	0.32**	0.42**	0.43**	0.35**	0.37**	1	
X10	0.40**	0.49**	0.44**	0.46**	0.37**	0.50**	0.42**	0.33**	0.50**	1

4.3. Structural equation modeling of students' rural entrepreneurial intention

Estimation of the measurement model- In this research, the reliability and validity of the questionnaire was measured by the composite reliability method (CR) and the diagnostic validity was measured by determining the coefficient of the average variance extracted (AVE). The constructs with CR higher than 0.6 have acceptable reliability, and the closer this value is to one, the higher the reliability (Raykov, 1998). Also, constructs with AVE higher than 0.5 have acceptable validity (Iglesias, 2004). The findings showed that the CR value of all constructs was higher than 0.6 and the AVE value of most constructs was higher than 0.5. In other words, the research tool had acceptable reliability and validity**.**

To check the validity or reliability of the model, it was necessary to examine the extent and level of significance of the paths between each of the latent variables with its corresponding indicators, for this purpose confirmatory factor analysis has been used to test this hypothesis that whether the indicators considered to introduce the construct or latent variables really represent them or not, and how accurately the selected indicators represent or fit the underlying variable. Since parameters with values higher than two are statistically significant (Bentler and Yuan, 1999), the obtained results indicate that the indicators used to measure the latent attributes studied in this research have an acceptable match with the factor structure and the theoretical basis of the research. Only the values of two indicators of the latent variables of attitude and perceived behavioral control were less than two, which were removed from the model. The trust or reliability of indicators can also be checked through the square of multiple correlations (R^2). R^2 values express the contribution of variance of each index determined by the corresponding latent variable (Table 3)**.**

Table 3. Measurement coefficients, significance level of confirmatory factor analysis and validity and reliability of latent attributes

Latent variables	Observed variables	Standardized values	AVE	CR	t- value	R^2
Knowledge of business plan	b.p1	0.778	0.554	0.860	-	0.605
	b.p2	0.782			11.35	0.612
	b.p3	0.782			11.35	0.612
	b.p4	0.702			10.03	0.493
	b.p5	0.670			9.51	0.449
Communications	C1	0.727	0.517	0.839	-	0.529
	C2	0.716			9.36	0.513
	C3	0.519			6.82	0.270
	C4	0.701			9.17	0.491
	C5	0.886			6.37	0.749
Acquaintance with commercial and legal rules	R1	0.776	0.640	0.842	-	0.602
	R2	0.808			11.47	0.653
	R3	0.816			11.58	0.666
Planning	P1	0.627	0.521	0.809	-	0.393
	P2	0.886			7.37	0.749
	P3	0.619			6.63	0.383
	P4	0.724			6.51	0.364
Team building	T1	0.664	0.522	0.843	6.93	0.441
	T2	0.731			7.33	0.535
	T3	0.701			7.16	0.491
	T4	0.598			6.46	0.358
	T5	0.888			-	0.346
Marketing	M1	0.703	0.490	0.827	-	0.495
	M2	0.789			10.01	0.623
	M3	0.691			8.88	0.478
	M4	0.631			8.14	0.398
	M5	0.679			8.73	0.461
Entrepreneurial attitude	Att1	0.771	0.520	0.811	3.26	0.594
	Att2	0.751			3.26	0.565
	Att3	0.589			3.15	0.347
	Att4	Deleted			-	-
	Att5	0.760			-	0.577
Social norms	Norm1	0.674	0.500	0.745	7.83	0.454
	Norm2	0.578			7.02	0.334
	Norm3	0.845			-	0.714
Perceived behavioral control	Pbc1	0.694	0.501	0.797	-	0.482
	Pbc2	0.645			7.32	0.417
	Pbc3	0.866			6.08	0.749
	Pbc4	Deleted			-	-
	Pbc5	0.598			6.90	0.358
Rural entrepreneurial intention	int1	0.870	0.493	0.904	-	0.756
	int2	0.894			8.27	0.799
	int3	0.631			4.68	0.398
	int4	0.681			4.79	0.463
	int5	0.670			4.77	0.449
	int6	0.723			5.34	0.522
	int7	0.666			4.76	0.443
	int8	0.650			4.72	0.423
	int9	0.595			4.59	0.354
	int10	0.560			4.49	0.313

Structural model estimation- After estimating the measurement model, the second step is estimating the structural model of the research. To estimate the structural model, the significance of the path coefficients assumed in the research model is examined. Before calculating the coefficients of the path, first the fit indices of both the original and the extended model of the planned behavior were checked. In order to find out to what extent the models are compatible with the used data, the fit of the entire model was evaluated and for this purpose, related fit indices were used. These indicators are presented in table 4. Accordingly, most of the indicators reported for the original model and the extended model have acceptable values for the overall fit of the models. Therefore, it can be stated that in general, the original model and the extended model of the planned behavior are compatible with the data**.**

Table 4. structural model fit indices

Test	Recommended value	Original model	Extended model
Likelihood ratio Chi-square (x2)	Insignificant x2 (p>0.05)	0.000	0.000
Normed chi-square (x2/df)	x2/df <5	1.69	1.68
Root Mean Square Residual	RMR<0.05	0.073	0.055
Root Mean Squared Error	RMSEA<0.08	0.059	0.059
Goodness-of-Fit Index	GFI>0.90	0.896	0.901
Incremental Fit Index	IFI=Values close to 1	0.925	0.851
Comparative Fit Index	CFI>0.90	0.922	0.846

Based on the structural model of TPB, three variables of entrepreneurial attitude, social norms and perceived behavioral control had a direct effect on rural entrepreneurial intention. The findings showed that the entrepreneurial attitude in both the original and extended planned behavior models had a positive and significant effect on the entrepreneurial intention of rural students ($\beta = 0.36$, $P<0.01$ and $\beta = 0.33$, $P < 0.05$ respectively). Other researches (Karimi, 2014 and 2016; Ghiasi, 2015; Roizalba Robledo et al., 2015) also confirm this finding. In their research, they came to the conclusion that people's attitude is the determining factor in their intentions to perform a certain behavior. So that Shaw et al. (2015) introduced attitude as a necessary prerequisite for behavior change**.**

Social norms, as another variable, only in the original planned behavior theory had a positive and significant effect on rural entrepreneurial intention of students ($\beta = 0.25$, $P<0.05$). This finding is in line with the research results of Seif et al. (2013), Karimi et al. (2014), Dang et al. (2014). In their research, they stated that the existing social norms in the society affect people's intention to initiate a new business. Zhou et al. (2016) also believe that social pressure enhances people's awareness and therefore strengthens their intentions to fructify an activity. Also, Burton (2004) acknowledges that people do not initiate an activity independently of cultural and social influences**.**

The analysis of the structural part of the model revealed that the perceived behavioral control had a positive and significant effect on the entrepreneurial intention of rural students in both the original and developed behavioral models ($\beta = 0.34$, $P < 0.01$ and $\beta = 0.43$, $P < 0.05$ respectively). These results were consistent with the experimental findings of many studies such as Rezaei et al. (2016), Liana et al. (2011), Ambad and Demit (2016). They also came to the conclusion that perceived behavioral control can influence the entrepreneurial intention of people**.**

Also, the findings showed that the coefficient of determination (R^2) for the original model of TPB was 0.51. This means that 51% of the changes in the variable of rural entrepreneurial intention of agricultural college students are related to the three variables of entrepreneurial attitude, social norms and perceived behavioral control. In other words, it can be claimed that the elements of the original model of TPB can describe 51% of the variance of rural entrepreneurial intention. Other findings are presented in figure (2)**.**

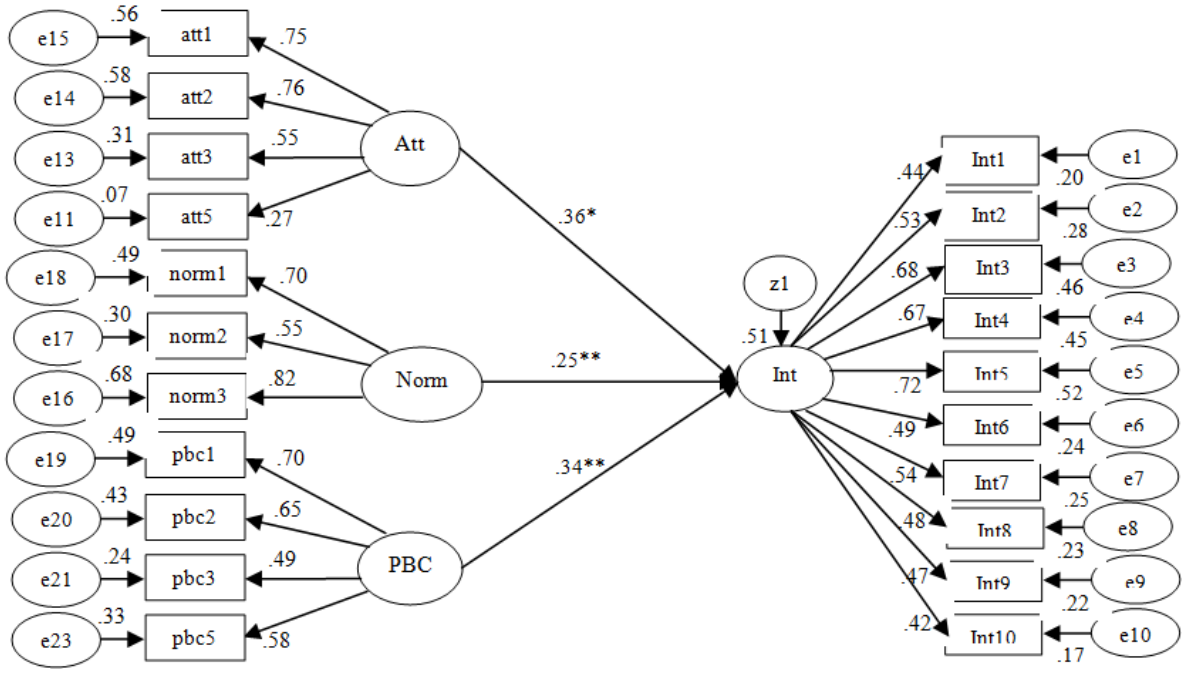

Figure 2. Structural model of the original TPB

According to figure (3), six entrepreneurial skills were included in the original TPB. The findings indicate that four skills of knowledge skills of business plan (β= 0.59, P< 0.05), communication (β= 0.58, P< 0.05), team building (β= 0.26, P< 0.05) and planning (β= 0.49, P < 0.01) had a positive and significant effect on rural entrepreneurial intention of students. Also, two skills of acquaintance with legal and commercial laws and regulations and marketing had no significant relationship with rural entrepreneurial intention. However, the variable of social norms in the extended TPB did not have a significant effect on the entrepreneurial intention of students, and the effect of two variables of attitude and perceived behavioral control has decreased. It can also be due to the interactions of new variables and components of TPB (other findings are presented in table (5)). Therefore, students with sufficient knowledge to develop a business plan, the ability to establish social relationships with people in the community and the market, the ability to form a strong work team, and finally, the ability to plan to create an innovative business, will have strong entrepreneurial intentions. This finding is in line with the results of Sadeghi and Malekinia (2013), Hosseininia et al. (2017), Ladzani and Van Vooren (2002), Din et al. (2016), Shahiwala (2017). They also emphasized the importance of entrepreneurial skills for the emergence of entrepreneurial intention and behavior. Considering the lack of significant effect of two skills of acquaintance with legal and commercial laws and regulations and marketing on the entrepreneurial intention of the students, it can be argued that these two skills have less effect on the activation of the entrepreneurial intention and behavior of students and more attention should be paid to four skills of the knowledge of business plan, communication, team building and planning.

Also, the findings showed that the coefficient of determination (R^2) for the extended TPB was 0.70. This means that 71% of the changes in the variable of rural entrepreneurial intention of agricultural college students is dependent on nine variables of entrepreneurial attitude, social norms, perceived behavioral control, business plan knowledge, communication, acquaintance with rules and regulations, planning, team building and marketing. In other words, it can be argued that the elements of the original model of TPB can explain 70% of the variance of rural entrepreneurial intention. By comparing the value of the coefficient of determination in two original and extended models, it can be concluded that after adding six entrepreneurial skills to the original model of planned behavior, the predictive power of the model has increased by 19% (Figure 3).

Table 5. Estimation of the paths of structural models

Model	Path	Standardized coefficients	t-Value	Sig
Original model	Entrepreneurial attitude	0.360	2.53	0.000
	Social norms	0.256	2.72	0.011
	Perceived behavioural control	0.349	3.46	0.007
Extended model	Entrepreneurial attitude	-0.037	2.001	0.045
	Social norms	0.438	-0.334	0.738
	Perceived behavioural control	0.590	2.513	0.012
	Knowledge of business plan	0.580	2.406	0.016
	Communications	-0.105	2.427	0.015
	Acquaintance with commercial and legal rules	0.492	-0.676	0.499
	Planning	0.265	2.582	0.010
	Team building	0.124	2.081	0.037
	Marketing		0.850	0.395

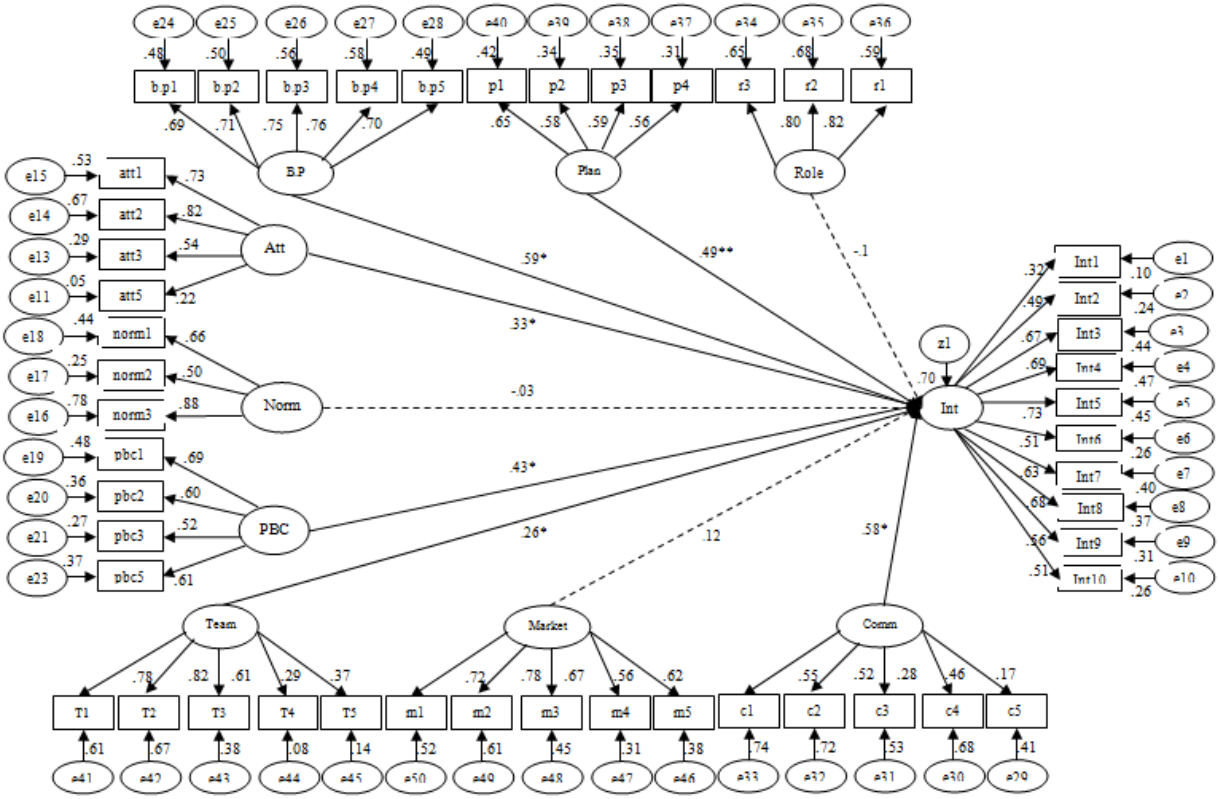

Figure3. structural model of extended TPB

5. Discussion and Conclusion

Considering the unemployment status of the young and educated workforce in the country, entrepreneurship can be a practical strategy to solve this problem. But, in order for people to turn to create and launch new businesses, they must first have the intention to do so. Accordingly, entrepreneurial intention can be a vital factor in the emergence of entrepreneurial behaviors. Therefore, this research was conducted with the aim of analyzing the rural entrepreneurial intention of agricultural students of Bu Ali Sina University, Hamedan, based on TPB. The obtained results indicated that by adding six entrepreneurial skills to the original TPB, the predictive power of the entrepreneurial intention of rural students will increase significantly. In other words, in addition to components such as attitude, perceived behavior control and norms, entrepreneurial skills also play a very important role in predicting the entrepreneurial intention of students. In general, it can be concluded that the ability of students in

entrepreneurial skills (such as knowledge of business plan, communication, acquaintance with legal and commercial laws and regulations, planning, team building and marketing) will create a strong sense of self-confidence in them to take risks and of course, their intentions to initiate a new business in rural areas will improved. On the other hand, subjective evaluations (in positive and negative views) that students have about initiating a new business can also affect their entrepreneurial intentions. In other words, if their subjective attitude towards doing an activity is positive, the intention of entrepreneurial behavior will strengthened; but the existence of a negative attitude will be a big obstacle for the formation of rural entrepreneurial intention. Also, students' understanding of the level of difficulty or ease of starting a new business and predicting their success in doing that activity or not can change their entrepreneurial intentions. Given the interaction of motivational and skill components, it can be concluded that students' confidence in their entrepreneurial abilities and skills to start and manage a new business (perceived behavioral control) gives them the power to have creative intentions and decisions to start a new activity. Finally, it can be concluded that TPB has the ability to be developed in the field of investigating the emergence of entrepreneurial behaviors. Because, by developing it, the predictive power of intention and behavior will increase and it will provide a proper understanding of the process of entrepreneurial behavior. Based on this, it can be suggested that the officials and planners of the agricultural faculties in the curriculum and educational planning department, should pay more attention to the educational content and formulate educational activities in order to strengthen and develop creativity and innovative ideas. This will improve motivational factors (attitude, perceived behavioral control, and subjective & social norms). Regarding the executive and practical measures, it can also be suggested that universities try to establish continuous and stable communication with the industry sector and various industries. Connecting students with the industry sector during their studies will lead to the recognition of the potential in the market and knowledge of the required entrepreneurial skills. Therefore, this recognition will significantly help to strengthen and promote rural entrepreneurial intention of students and as a result, the emergence of entrepreneurial behaviors. This is while Ataei et al. (2015) also considered the effective and stable relationship between universities and the industry sector as an important factor in students' entrepreneurial intentions. Finally, it is suggested that the future researches, by using cognitive factors and applying it in TPB, will provide more insights into the rural entrepreneurial intention and the development of TPB.

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Authors' contributions

The authors equally contributed to the preparation of this article**.**

Conflict of interest

The authors declare no conflict of interest.

References

1. Ahmadi, F., Maffakherinia, F., & Faraji, B. (2013). promoting entrepreneurial culture with an Islamic approach in the universities of Kurdistan province. *Management in Islamic University*, 1(3), 485-502. https://miu.nahad.ir.article_52.html
2. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. https://doi.org.10.1016.0749-5978(91)90020-T
3. Aliabadi, V., Ataei, P., & Movahedi, R. (2016). The effect of strategic thinking and social capital on recognition of entrepreneurial opportunities among rural youth. *Journal of Research and Rural Planning, 5*(2), 95-110. [In Persian] https://doi.org/10.22067/jrrp.v5i2.46072
4. Aliabadi, V., Ataei, P., Movahedi, R., & Khayati, M. (2017). Analysing the implications and challenges of self-employment among the agricultural graduates. *Journal of Entrepreneurship in Agriculture, 4*(3), 25-38. [In Persian] https://doi.10.22069/jead.2018.11239.1185
5. Ambad, S. N. A., & Damit, D. H. D. A. (2016). Determinants of Entrepreneurial Intention Among Undergraduate Students in Malaysia. *Procedia Economics and Finance*, 37, 108-114. https://Doi.httpsdoi.org.10.1016.S2212-5671(16)30100-9

6. Amofah, K., & Saladrigues, R. (2022). Impact of attitude towards entrepreneurship education and role models on entrepreneurial intention. *Journal of Innovation and Entrepreneurship*, 11(1). Https://Doi.10.1186.s13731-022-00197-5
7. Arasti, Z., & Saeidbanadaki, S. (2013). Evaluation of entrepreneurship education program in higher education. *Iranian Journal of Engineering Education*, *15*(57), 75-89. [In Persian] https://doi.org/10.22047/ijee.2013.2964
8. Ataei, P., Ghadermarzi, H., Karimi, H., & Norouzi, A. (2020b). The barriers hindering the application of the value chain in the context of rural entrepreneurship. *The Journal of Agricultural Education and Extension*, *26*(4), 365-382. https://doi.org/10.1080/1389224X.2020.1726780
9. Ataei, P., Ghadermarzi, H., Karimi, H., & Norouzi, A. (2021). The process of adopting entrepreneurial behaviour: Evidence from agriculture students in Iran. *Innovations in Education and Teaching International*, 58(3), 340-350. https://Doi.10.1080/14703297.2020.1734476
10. Ataei, P., Hosseininia, G., & Yaghoubi Farani, A. (2016). Challenges and Sulotions for Effective and Sustainable Linkage between Branches of Applied Science and Technology University and Industry Sectors Case study: Sub- Branches of Maharat Institute of Applied Sciences. *Skill Training*, *4*(15), 55-78. [In Persian] https://www.sid.ir/fa/seminar/ViewPaper.aspx?ID=29856
11. Ataei, P., Karimi, H., Ghadermarzi, H., & Norouzi, A. (2020a). A conceptual model of entrepreneurial competencies and their impacts on rural youth's intention to launch SMEs. *Journal of Rural Studies*, 75, 185-195. https://doi.org/10.1016/j.jrurstud.2020.01.023
12. Barba-Sánchez, V., & Atienza-Sahuquillo, C. (2018). Entrepreneurial intention among engineering students: The role of entrepreneurship education. *European Research on Management and Business Economics*, 24(1), 53-61. https://doi.org.10.1016.j.iedeen.2017.04.001
13. Bentler, P. M., & Yuan, K. H. (1999). Structural Equation Modeling with Small Samples: Test Statistics. *Multivariate Behav Res*, 34(2), 181-197. https://doi.org/10.1207/S15327906Mb340203
14. Bergevoet, R.H.M., Ondersteijn, C.J.M., Saatkamp, H.W., van Woerkum, C.M.J., & Huirne, R.B.M. (2004). Entrepreneurial behavior of Dutch dairy farmers under a milk quota system: goals, objectives and attitudes. *Agricultural Systems*, 80(1), 1-21. https://doi.org.10.1016.j.agsy.2003.05.001
15. Bird, B. (1988). Implementing entrepreneurial ideas: the case for intention. *Academy of Management Review*, 13, 442–453. https://doi.org.10.2307.258091
16. Burton, R.J.F. (2004). Reconceptualising the 'behavioural approach' in agricultural studies: a socio-psychological perspective. *Journal of Rural Studies*, 20(3), 359-371. https://doi.org. 10.1016. j.jrurstud.2003.12.001
17. Cui, J., & Bell, R. (2022). Behavioural entrepreneurial mindset: How entrepreneurial education activity impacts entrepreneurial intention and behaviour. *International Journal of Management Education*, 20(2). Doi:10.1016.j.ijme.2022.100639
18. Dang, H.L., Li, E., Nuberg, I., & Bruwer, J. (2014). Understanding farmers' adaptation intention to climate change: a structural equation modelling study in the Mekong Delta, Vietnam. *Environmental Science & Policy*, 41, 11-22. https://doi.org.10.1016.j.envsci.2014.04.002
19. Din, B. H., Anuar, A. R., & Usman, M. (2016). The Effectiveness of the Entrepreneurship Education Program in Upgrading Entrepreneurial Skills among Public University Students. *Procedia – Social and Behavioral Sciences*, 224, 117-123. https://doi.org/10.1016/j.sbspro.2016.05.413
20. Do, B.-R., & Dadvari, A. (2017). The influence of the dark triad on the relationship between entrepreneurial attitude orientation and entrepreneurial intention: A study among students in Taiwan University. *Asia Pacific Management Review*, 22(4), 185-191. https://doi.org/10.1016/j.apmrv.2017.07.011
21. Espíritu-Olmos, R., & Sastre-Castillo, M. A. (2015). Personality traits versus work values: Comparing psychological theories on entrepreneurial intention. *Journal of Business Research*, 68(7), 1595-1598. https://doi.org.10.1016.j.jbusres.2015.02.001
22. Fairlie, R. W., & Helleran, W. (2012). Entrepreneurship training, risk aversion and other personality traits: Evidence from a random experiment. *Journal of Economic Psychology*, 33(2), 366-378. https:..doi.org.10.1016.j.joep.2011.02.001

23. Faizbakhsh, S.A., & Abdullahi, A. (2009). *General Entrepreneurship*. Tehran: Education and Research Center of Graduate of Islamic Azad University. [In Persian]
24. Fauchald, R. N., Aaboen, L., & Haneberg, D. H. (2022). Utilisation of entrepreneurial experiences in student-driven mentoring processes. *International Journal of Management Education*, 20(2). https://doi.org/10.1016/j.ijme.2022.100651
25. Fini, R., Grimaldi, R., Marzocchi, G. L., & Sobrero, M. (2012). The determinants of corporate entrepreneurial intention within small and newly established firms. *Entrepreneurship Theory and Practice*, 36(2), 387-414. https://doi.org.10.1111%2Fj.1540-6520.2010.00411.x
26. Ghanati, M., Nodehi, H., Gudarti, A., & Jalalifar, A. (2016). The effect of entrepreneurship education on the entrepreneurial intention of students from Sabzevar University of Medical Sciences. *Journal of Sabzevar University of Medical Sciences*, 24(5), 325-319. [In Persian] http://jsums.medsab.ac.ir.article_994.html
27. Ghiasi, A.R. (2016), the effect of belief in self-efficacy and entrepreneurial attitude with entrepreneurial intention of agricultural and natural resources students of Zabul University. Agricultural Education Management Research, 39, 3-15. [In Persian] https://10.22092.jaear.2017.109268
28. Hiserich Robert, D., & Peters Michael P. (2016). *Entrepreneurship* (Vol. I). (S, A., FaizAbadi., & H. R., Taghiyari., Trans.). Tehran: Scientific Publishing Institute of Sharif University of Technology. [In Persian]
29. Hosseini, S.Y., & Khosravi Lagab, Z. (2016). Identifying Effective Factors on Leadership and Entrepreneurship Intent among Female Students (Case Study: Management Students of Public Universities in City). *Women and Society*, 8(2), 35-56. [In Persian] https://jzvj.marvdasht.iau.ir/article_2390.html
30. Hosseininia, G., Ataie, P., & Yaghoubi Farani, A. (2017). An assessment of students' entrepreneurial skills and characteristics and the impact on their entrepreneurial intention: a case of maharat applied science centers. *Iranian Journal of Engineering Education, 19*(73), 25-44. [In Persian] doi:10.22047/ijee.2017.61340.1408
31. Iakovleva, T., Kolvereid, L., & Stephan, U. (2011). Entrepreneurial intentions in developing and developed countries. *Education + Training*, 53(5), 353-370. http://dx.doi.org. 10.1108.004009 11111147686
32. Iglesias, V. (2004). Preconceptions about Service: How Much Do they Influence Quality Evaluations? *Journal of Service Research*, 7(1), 90-103. Doi:10.1177.1094670504266139
33. Ismail, K., Anuar, M. A., Omar, W. Z. W., Aziz, A. A., Seohod, K., & Akhtar, C. S. (2015). Entrepreneurial Intention, Entrepreneurial Orientation of Faculty and Students towards Commercialization. *Procedia – Social and Behavioral Sciences*, 181, 349-355. https://doi.org.10.1016.j.sbspro.2015.04.897
34. Jafari Moghadam, S., Zali, M.R., & Jalilzadeh, M. (2016). Inhibiting factors of students' entrepreneurial intention: a case study of Tehran University. *Modern Economy and Business*, 7(25 and 26), 51-27. [In Persian] https://www.magiran.com.paper.1119990
35. Jiang, F., Lu, S., Hou, Y., & Yue, X. (2013). Dialectical thinking and health behaviors: The effects of theory of planned behavior. *International Journal of Psychology*, 48(3), 206-214. Doi:10.1080.00207594.2012.656130
36. Kahan, D. (2014). *Entrepreneurship in Agriculture. Translated by Saeed Karimi and Reza Movahedi*. Tehran: Noor Alam. [In Persian]
37. Karimi, H., & Ataei, P. (2022a). The effect of entrepreneurship ecosystem on the entrepreneurial skills of agriculture students: The mediating role of social intelligence and emotional intelligence (The case of Zabol University, Iran). *Current Psychology*. https://doi.org/10.1007/s12144-022-03479-z
38. Karimi, H., & Ataei, P. (2022b). Farmers' cultural biases and adaptation behavior towards drought. *Journal of Agricultural Science and Technology*, 24(4), 791-807. [In Persian] http://jast.modares.ac.ir/article-23-55258-en.html

39. Karimi, S., Biemans, H.J.A., Lans, T., Chizari, M., & Mulder, M. (2014). Effects of role models and gender on students' entrepreneurial intentions. *European Journal of Training and Development*, 38(8), 694 – 727. https://doi.org.10.1108.EJTD-03-2013-0036
40. Karimi, S. (2016). investigating the role of emotional intelligence in the development of entrepreneurial intention of agricultural students (case study: Boali Sina, Razi, Kurdistan and Lorestan universities). *Agricultural Extension and Education Sciences of Iran*, 12(1), 71-84. [In Persian] https://www.iaeej.ir.article_32136.html
41. Karimi, S. (2016). The role of entrepreneurial personality profile and motivational factors in the development of entrepreneurial intention of agricultural students in western universities. *Cognitive and Behavioral Sciences Research*, 7(1), 17-33. [In Persian] https://journals.ui.ac.ir/article_21760.html
42. Karimi, S., Movahedi, R., Saadi, H., & Yacoubi Farani, A. (2014). The relationship between dynamic personality and entrepreneurial will of agricultural students. *Agricultural Education Management Research*, 34, 117-134. [In Persian] https://itvhe.areeo.ac.ir/article_106011.html
43. Kautonen, T., van Gelderen, M., & Fink, M. (2015). Robustness of the theory of planned behavior in predicting entrepreneurial intentions and actions. *Entrepreneurship Theory and Practice*, 39(3), 655–674. https:..doi.org.10.1111%2Fetap.12056
44. Khayri, S., Yaghoubi, J., & Yazdanpanah, M. (2011). Investigating barriers to enhance entrepreneurship in agricultural higher education from the perspective of graduate students. *Procedia- Social and Behavioral Sciences*, 15, 2818-2822. https://doi.org.10.1016.j.sbspro.2011.04.195
45. Khazaei Kohper, M., Taghipurian, M.J., Alikhani, R., & Kiakjuri, D. (2021). Conceptualizing academic entrepreneurial marketing with a qualitative approach. *Innovation and creativity in humanities*, 10(4), 21-62. [In Persian] https://journal.bpj.ir.article_682633.html
46. Krejcie, R. V., & Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*, 30, 607-610. https://doi.org.10.1177%2F001316447003000308
47. Krueger, N., Reilly, M., & Carsrud, A. (2000). Competing model of entrepreneurial intention. *Journal of Business Venturing*, 15, 411-432. https://doi.org.10.1016.S0883-9026(98)00033-0
48. Ladzani, W., & Van Vuuren, J. (2002). Entrepreneurship Training for Emerging SMEs in South Africa. *Journal of Small Business Management*, 40, (2), 154-161. https://doi.org.10.1111.1540-627X.00047
49. Liana, F., Rodriguez-Cohard, J., & Rueda-Cantouche, J. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 2(7), 195-218. https://doi.org.10.1007.s11365-010-0154-z
50. Linan, F., & Chen, Y. (2009). Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions. *Entrepreneurship Theory and Practice*, 33(3), 593-617. https://doi.org.10.1111%2Fj.1540-6520.2009.00318.x
51. Lortie, J., & Castogiovanni, G. (2015). The theory of planned behavior in entrepreneurship research: what we know and future directions. *International Journal of Entrepreneurship and Management*, 11(4), 935-957. https://doi.org.10.1007.s11365-015-0358-3
52. Maheshwari, G., & Kha, K. L. (2022). Investigating the relationship between educational support and entrepreneurial intention in Vietnam: The mediating role of entrepreneurial self-efficacy in the theory of planned behavior. *International Journal of Management Education*, 20(2). Doi: 10.1016. j.ijme.2021 .100553
53. Malebana, J. (2014). Entrepreneurial intentions of South African rural university students: A test of the theory of planned behaviour. *Journal of Economics and Behavioral Studies*, 6(2), 130-143. http://dx.doi.org.10.22610.jebs.v6i2.476
54. Mardanshahi, M. M., Tajik Esmaeili, A., & Mobaraki, M. H. (2014). in Junior and Senior Students of State Universities (Case Study: State Universities of Mazandaran Province). *Journal of Entrepreneurship Development*, *7*(4), 755-771. doi: 10.22059/jed.2014.53628
55. Martins, I., Perez, J. P., & Novoa, S. (2022). Developing orientation to achieve entrepreneurial intention: A pretest-post-test analysis of entrepreneurship education programs. *The International Journal of Management Education*. https://doi.org/10.1016/j.ijme.2021.100593

56. Mat, S. C., Maat, S. M., & Mohd, N. (2015). Identifying Factors that Affecting the Entrepreneurial Intention among Engineering Technology Students. *Procedia – Social and Behavioral Sciences*, 211, 1016-1022. https://doi.org.10.1016.j.sbspro.2015.11.135
57. Mohammadi, S., Safiari, R., & Khosravi, R. (2019). Analysis of environmental barriers affecting the tendency of villagers to entrepreneurial micro-businesses, a case study: Marivan and Sarvabad cities of Kurdistan. *Geography and Development*, 18(58), 154-133. [In Persian] https://gdij.usb.ac.ir/article_5189.html
58. Moradhaseli, S., Ataei, P., & Norouzi, A. (2017). Analysis of students' environmental behavior of Agriculture College of Tarbiat Modares University, Iran (Application of Planned Behavior Theory). *Journal of Human Behavior in the Social Environment*, 27(7), 733-742. [In Persian] https:..doi.org. 10.1080. 10911359.2017.1334614
59. Moriano, J. A., Gorgievski, M., Laguna, M., Stephan, U., & Zarafshani, K. (2012). A cross-cultural approach to understanding entrepreneurial intention. *Journal of career development*, 39(2), 162-185. https://doi.org.10.1177%2F0894845310384481
60. Mousivand, M., Hamidi Jahed, M., Ataei, P., & Safaei Shakib, A. (2017). Influence of Internal Factors in University on the Entrepreneurial Culture among Agricultural Students of Hamedan Universities. *socio-cultural Development Studies, 6*(1), 185-206. [In Persian]http:..journals.sabz.ac.ir.scds.article-1-381-fa.html
61. Mousivand, M., Safaei Shakib, A., Ataei, P., & Abdolmaleki, B. (2016). Analyzing Effect of Psychological Capital Components on Identifying Entrepreneurial Opportunities of Agriculture Jahad Organization Staffs of Hamedan Province. *Quarterly Journal of Economic Growth and Development Research, 6*(23), 64-55. [In Persian] https://egdr.journals.pnu.ac.ir.article_4659.html
62. Naseri, B., Ekati, S., & Mirzadeh, M. (2021). Examining the role of academic growth centers in the entrepreneurial capability of the technology cores and units of growth of centers of Islamic Azad University. *Technology Growth*, 17(66), 1-10. [In Persian] 10.52547.jstpi.20908.17.66.1
63. Nwankwo, B., Kanu, G., Marire, M., Balogun, S., & Uhiara, C. (2012). Gender-role orientation and self-efficacy as correlates of entrepreneurial intention. *European Journal of Business and Social Sciences*, 6(1), 9-26. http://dx.doi.org.10.1142.S108494670800082X
64. Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior*, 77(1), 63-72. https://doi.org. 10.1016 .j.jvb.2010.02.008
65. Paliwal, M., Rajak, B. K., Kumar, V., & Singh, S. (2022). Assessing the role of creativity and motivation to measure entrepreneurial education and entrepreneurial intention. *International Journal of Educational Management*, 36(5), 854-874. http://Doi.10.1108.IJEM-05-2021-0178
66. Parvin, L., Rahman, M.W., & Jia, J. (2012). Determinates of Women Microentrepreneurship Development: An Empirical Investigation in Rural Bangladesh. *International Journal of Economics and Finance*, 4(5), 254-260. http://dx.doi.org.10.5539.ijef.v4n5p254
67. Peyman, N., Amani, M., & Esmaily, H. (2015). The relationship between health literacy and the theory of planned behavior on breast cancer screening programs among rural women in Roshtkhar, Iran 2015. *Journal of Cellular Immunotherapy*, 1(1), 41-42. [In Persian] http://ijbd.ir.article-1-561-en.html
68. Raykov, T. (1998). Coefficient Alpha and Composite Reliability with Interrelated Nonhomogeneous Items. *Applied Psychological Measurement*, 22(4), 375-385. http://Doi.10.1177.014662169802200407
69. Rezaei, R., Golbaz, S.S., Sharafi, L., & Najaflo, P. (2016). the effect of the tendency to learn and enthusiasm for work on the entrepreneurial intention of master's students in agricultural fields of Zanjan University. *Agricultural Education Management Research*, 39, 104-94. [In Persian] http://10.22092.jaear.2017.109275
70. Ruizalba Robledo, J., Aran, M., Martin-Sanchez, M., & Rodriguez-Molina, M. (2015). The moderating role of gender on entrepreneurial intentions: A TPB perspective. *Intangible Capital*, 11(1), 92-117. http://dx.doi.org.10.3926.ic.557

71. Sadeghi, M., & Melkinia, I. (2017). students' evaluation of entrepreneurial environments and explaining its relationship with entrepreneurial intention. *Research and Planning in Higher Education*, 59, 89-69. [In Persian] http://journal.irphe.ac.ir.article-1-1043-fa.html
72. Safi Sis, Y., Rezaei, A., Karimi, H., & Ataei, P. (2022). Modeling antecedent factors involved in behavioral intention towards technology application of genetically modified crops. *GM Crops & Food*, 13(1), 50-64. https://doi.org/10.1080/21645698.2022.2057160
73. Schlaegel, C., & Koenig, M. (2014). Determinants of entrepreneurial intent: A meta-analytic test and integration of competing models. *Entrepreneurship Theory and Practice*, 38(2), 291–332. https://doi.org. 10.1111%2Fetap.12087
74. Schnusenberg, O., de Jong, P., & Goel, L. (2012). Predicting Study Abroad Intentions Based on the Theory of Planned Behavior. *Decision Sciences Journal of Innovative Education*, 10(3), 337-361. https://Doi.10.1111.j.1540-4609.2012.00350.x
75. Seif, M.H., Thabit Maharloi, A., Rastgar, A., & Ahmedabadi, Kh. (2014). factors affecting academic entrepreneurship intention among students of Shiraz University of Medical Sciences. *Development of Education in Medical Sciences*, 7(15), 71-85. [In Persian] http://zums.ac.ir. edujournal.article-1-271-fa.html
76. Shahiwala, A. (2017). Entrepreneurship skills development through project-based activity in Bachelor of Pharmacy program. *Currents in Pharmacy Teaching and Learning*, 9(4), 698-706. https://doi.org.10.1016.j.cptl.2017.03.017
77. Shakiba, H., Hijazi, S.Y., & Hosseini, S.M. (2016). the relationship between social capital and entrepreneurial intention among agricultural students of Tehran University. *Agricultural Education Management Research*, 38, 78-89. [In Persian] https://10.22092.jaear.2016.107205
78. Shaw, A., Strohbehn, C., Naeve, L., Domoto, P., Wilson, L. (2015). Systematic approach to food safety education on the farm. *Journal of Extension*, 53(6), 1-8. https://archives.joe.org. joe. 2015 december.iw4.php
79. Tshikovhi, N., Shambare, R. (2015). Entrepreneurial knowledge, personal attitudes, and entrepreneurship intentions among South African Enactus students. *Problems and Perspectives in Management*, 13(1), 152-158. https://www.businesorg/ /6476/PPM_2015_01cont_Tshikovhi.pdf
80. Vatankhah, N., & Rezaei Moghadam, K. (2014). Understanding the entrepreneurial spirit of students: a case study of the faculty of Agriculture, Shiraz University. Agricultural Extension and Education Sciences of Iran, 11(1), 59-71. https://www.iaeej.ir.article_13583.html
81. Wortman, M. S. (1990). Rural entrepreneurship research: integration into the entrepreneurship field. *Agribusiness*, 6(4), 329-344. https://doi.org. 10.1002 .1520-6297 (199007) 6:4%3C329:: AID-AGR27 20060405% 3E3.0.CO;2-N
82. Yaghoubi Farani, A., Mohammadi, Y., Ghahremani, F., & Ataei, P. (2021). How can Iranian farmers' attitudes toward environmental conservation be influenced? *Global Ecology and Conservation*, 31, e01870. https://doi.org/10.1016/j.gecco.2021.e01870
83. Zarifian, Shapour., Pishbahar, A., Adeli Sardoi, M., & Sharifi, A. (2014). psychological characteristics affecting the entrepreneurship of students of the Faculty of Agriculture in Tabriz University. *Extension Sciences and Agricultural Education of Iran*, 11(1), 19-30. [In Persian] https://www.iaeej.ir .article _12489.html
84. Zeweld, W., Huylenbroeck, G., Tesfay, G., & Speelman, S. (2017). Smallholder farmers' behavioral intentions towards sustainable agricultural practices. *Journal of Environmental Management*, 187, 71-81. https://doi.org.10.1016.j.jenvman.2016.11.014
85. Zhou, J., Yan, Z., & Li, K. (2016). Understanding farmer cooperatives' self-inspection behavior to guarantee agri-product safety in China. *Food Control*, 59, 320-327. https://doi.org.10. 1016.j. foodcont.2015.05.035

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تحلیل مقاصد کارآفرینانه روستایی دانشجویان کشاورزی براساس نظریه توسعه‌یافته رفتار برنامه‌ریزی‌شده

مریم موسیوند[۱]- صفی‌اله صفایی[۲]- پوریا عطائی*[۳]

۱-استادیار مدیریت، دانشگاه پیام نور، تهران، ایران.
۲- استادیار علوم اجتماعی، دانشگاه پیام نور، تهران، ایران.
۳- دکتری ترویج و آموزش کشاورزی، دانشگاه تربیت مدرس، تهران، ایران

چکیده مبسوط

۱. مقدمه

روستاها یکی از مناطقی است که دانش‌آموختگان رشته‌های کشاورزی می‌توانند در آنجا فعالیت‌های کسب‌وکارهای نوآورانه خود را ایجاد و توسعه دهند. زیرا توسعه فعالیت‌های کارآفرینانه در مناطق روستایی بسیاری از هزینه‌های اولیه را کاهش می‌دهد و به دلیل قرار گرفتن مرکز تولیدات کشاورزی در مناطق روستایی، دانش‌آموختگان کشاورزی می‌توانند ارتباط نزدیک‌تر و آسان‌تری را با بهره‌برداران ایجاد کنند. از طرف دیگر، ۹۶ درصد منابع آب و خاک در مناطق روستایی قرار دارد و وجود این پتانسیل می‌تواند دانش‌آموختگان کشاورزی را برای ایجاد کسب‌وکارهای کارآفرینانه به این مناطق هدایت کند. در صورت گذار ایجاد کسب‌وکارهای کارآفرینانه توسط دانش‌آموختگان کشاورزی به مناطق روستایی، قدم بسیار مهمی در توسعه روستایی برداشته می‌شود. بنابراین، پژوهش حاضر با هدف تحلیل مقاصد کارآفرینانه روستایی دانشجویان کشاورزی دانشگاه همدان براساس نظریه توسعه‌یافته رفتار برنامه‌ریزی شده انجام گردید.

۲. مبانی نظری تحقیق

یکی از رایج‌ترین و جامع‌ترین مدل‌های رفتاری مورد استفاده در تحقیقات رفتاری، نظریه رفتار برنامه‌ریزی‌شده می‌باشد. نظریه رفتار برنامه‌ریزی‌شده برای تبیین و پیش‌بینی قصد و رفتار در زمینه‌های مختلف پژوهشی نظیر علوم پزشکی، روانشناسی، کشاورزی و بازاریابی به کار رفته است. بسیاری از تحقیقات انجام شده با بهره‌گیری از نظریه رفتار برنامه‌ریزی‌شده بر اثرات عوامل شخصیتی و روان‌شناختی بر روی رفتار و قصد کارآفرینانه تمرکز داشتند، در حالی که اغلب نقش مهم مهارت‌های کارآفرینانه نادیده گرفته شده است. این در حالی است که مهارت‌های کارآفرینانه می‌تواند پایه‌گذار بروز قصد و بالطبع رفتار کارآفرینانه در دانش‌آموختگان دانشگاهی باشد. قصد کارآفرینانه دانشجویان در دانشگاه‌های مختلف وضعیت متفاوتی دارد. به‌طوری که، در برخی موارد دانشجویان از قصد کارآفرینانه ضعیف و یا متوسطی برخوردار می‌باشند. قصد کارآفرینانه اشاره به یک حالت ذهنی دارد که فعالیت‌های فرد را به سمت توسعه و اجرای کسب‌وکار هدایت و راهنمایی می‌کند. به عبارتی، قصد کارآفرینانه حالت آگاهانه ذهنی است که پیش از عمل واقع شده و نیت نسبت به راه‌اندازی کسب‌وکار را به‌عنوان یک هدف هدایت می‌کند.

۳. روش تحقیق

تحقیق حاضر از لحاظ نوع پژوهش، کاربردی، از لحاظ زمانی، گذشته‌نگر، از جهت پارادایمی نیز، کمی بوده است. همچنین، پژوهش مورد نظر از لحاظ کنترل متغیرها، غیرآزمایشی و جامعه-شناختی، از جنبه عملیات آماری، "علّی ـ رابطه‌ای" و "توصیفی-همبستگی" می‌باشد. جامعه مورد بررسی، کلیه دانشجویان کشاورزی سال آخر دانشگاه بوعلی سینا، همدان بودند (N=۴۲۰). برای نمونه‌گیری جامعه پژوهش، از روش نمونه‌گیری تصادفی ساده و برای تعیین حجم نمونه نیز از جدول رجسی و مورگان استفاده گردید (n=۲۰۰). برای جمع‌آوری داده‌ها، از پرسشنامه محقق-ساخته، استفاده گردید. پرسشنامه طراحی‌شده شامل عناصر تئوری رفتار برنامه‌ریزی‌شده، مهارت‌های کارآفرینانه و ویژگی‌های جمعیت-شناختی دانشجویان بود.

*. نویسندهٔ مسئول:
دکتر مریم موسیوند
آدرس: گروه مدیریت، دانشکده اقتصاد، دانشگاه پیام نور، تهران، ایران.
پست الکترونیکی: Email: r.mousivand@pnu.ac.ir

برای سنجش مهارت‌های کارآفرینانه دانشجویان از طیف لیکرت پنج قسمتی (خیلی کم= ۱ تا خیلی زیاد= ۵) و برای سنجش عناصر تئوری رفتار برنامه‌ریزی شده از طیف پنج قسمتی (کاملاً مخالف= ۱ تا کاملاً موافق= ۵) استفاده شد. روایی صوری و محتوایی پرسشنامه توسط پانلی از متخصصان حوزه رفتار کارآفرینانه تأیید گردید. برای تأیید پایایی ابزار پژوهش نیز یک مطالعه راهنما و محاسبه ضریب تتای ترتیبی صورت پذیرفت.

۴. یافته‌های تحقیق

نتایج تحلیل عاملی تأییدی نشان داد که نشانگرهای مورد استفاده برای اندازه‌گیری صفت‌های مکنون مورد مطالعه این پژوهش با ساختار عاملی و زیربنای نظری پژوهش تطابق قابل قبولی دارند. نتایج مشخص کرد که سه مؤلفه تئوری رفتار برنامه‌ریزی‌شده اصلی (نگرش، کنترل رفتاری درک‌شده و هنجارهای اجتماعی) تأثیر مثبت و معنی‌داری بر مقاصد کارآفرینانه روستایی دانشجویان داشتند که ۵۱ درصد از واریانس مقاصد کارآفرینانه روستایی را پیش‌بینی می‌کند. به‌علاوه، پس از اضافه کردن شش مهارت کارآفرینی به مدل، قدرت پیش‌بینی‌کنندگی نظریه رفتار برنامه‌ریزی شده تا ۱۹ درصد افزایش یافت. به‌طوری‌که، چهار مهارت دانش طرح کسب‌وکار، ارتباطات، تیم‌سازی و برنامه‌ریزی تأثیر مثبت و معنی‌داری بر قصد کارآفرینانه روستایی دانشجویان داشتند.

۵. بحث و نتیجه‌گیری

نتایج به‌دست آمده حاکی از آن بود که با اضافه کردن مهارت‌های شش‌گانه کارآفرینی به نظریه اصلی رفتار برنامه‌ریزی‌شده، قدرت پیش‌بینی‌کنندگی قصد کارآفرینانه روستایی دانشجویان افزایش چشم‌گیری خواهد داشت. به بیان دیگر، علاوه‌بر مؤلفه‌هایی نظیر نگرش، کنترل رفتار درک‌شده و هنجارها، مهارت‌های کارآفرینانه نیز نقش بسیار مهمی در پیش‌بینی قصد کارآفرینانه دانشجویان دارد. می‌توان نتیجه گرفت که توانمند بودن دانشجویان از لحاظ مهارت‌های کارآفرینی باعث ایجاد حس اعتمادبه‌نفس قوی در آنان برای ریسک‌پذیری خواهد شد و بالطبع، قصد آنها برای راه‌اندازی کسب‌وکار جدید در مناطق روستایی ارتقا می‌یابد. از طرف دیگر، ارزشیابی‌های ذهنی که دانشجویان از راه‌اندازی کسب‌وکار جدید دارند نیز می‌تواند قصد کارآفرینانه آنها را تحت تأثیر قرار دهد. به بیان دیگر، اگر نگرش ذهنی آنها نسبت به انجام یک فعالیت مثبت باشد، قصد بروز رفتار کارآفرینانه تقویت می‌شود؛ اما وجود نگرش منفی مانعی بزرگ برای شکل‌گیری قصد کارآفرینانه روستایی خواهد شد. از تعامل مؤلفه‌های انگیزشی و مهارتی نیز می‌توان استنباط نمود که اطمینان دانشجویان نسبت به توانایی‌ها و مهارت‌های کارآفرینی خود جهت راه‌اندازی و مدیریت کسب‌وکار جدید، این قدرت را به آنها می‌دهد که نسبت به شروع فعالیت جدید، قصد و تصمیم‌گیری خلاقانه‌ای داشته باشند.

کلیدواژه‌ها: مقاصد کارآفرینانه روستایی، نظریه رفتار برنامه‌ریزی‌شده، دانشجویان رشته کشاورزی، آموزش کارآفرینی.

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Original Article

Analysis of Illegal Leisure Effects on the Social Conditions of Rural Households (Case Study: Varza Jang Betting and Gambling in Guilan Province-Belesbeneh Rural District)

Umolbanin Ahmadi Gorabsari [1], Ali Hajinejad [2]*, Majid Yasouri [3]

1- Master of Geography and Rural Planning, Gilan University, Rasht, Iran
2- Associate Prof. in Geography and Rural Planning, University of Guilan, Rasht, Iran
3- Full Prof. in Geography and Rural Planning, University of Guilan, Rasht, Iran

Abstract

Purpose- Leisure is influential in shaping social identity and helpful for social growth, which occurs in legal and illegal ways. The illegal form is a behavior that is out of control and causes irreversible damage to individuals and their families. Therefore, investigating the role of illegal leisure time (gambling and betting games) is necessary to improve the quality of social life, especially for rural households. To this end, this study aims to investigate the role of illegal leisure time, particularly gambling, on the social conditions of rural households.

Design/methodology/approach - This research is descriptive-analytical in terms of its aim and method. The data collection tools are questionnaires and interviews from a sample of 362 households. The statistical population is rural households, both involved and uninvolved, in Varza Jang (an animal fight tournament) located in Kuchesfahan District, Belesbeneh Rural District (N = 5819). A sample group was selected using Cochran's Formula and Quota sampling. In addition, a one-sample t-test, Friedman rank test and path analysis were used to analyze the data.

Findings- The results of the t-test showed that in the component of social anomalies, the indicator of violence and tension in the family with an average of 3.86 had the highest, and the indicator of suicide with an average of 1.39 had the lowest social effects on the studied rural households. Also, in the component of family and individual abnormalities and problems, the stress indicator in children with an average of 3.91 had the highest, and the indicator of family separation and divorce with an average of 2.89 had the lowest average affecting the social effects of the respondents. Also, the results of the path analysis showed that betting and gambling were effective on all indicators of the two components of social anomalies and individual anomalies.

Originality/value- For this reason, gambling significantly impacts children's stress, violence, tension and divorce in families.

Keywords- Leisure time, gambling, betting game, Varza Jang, Guilan province, Belesbeneh Rural District.

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Corresponding Author:
Hajinejad, Ali, Ph.D.
Address: Department of Geography, Faculty of Humanities, University of Guilan, Rasht, Iran
Tel: +989121156908
E-Mail: ahajinejad@guilan.ac.ir

1. Introduction

Leisure is influential in shaping social identity and helpful for individual growth and influencing the creation of a social environment, and to a large extent, the driver of social growth (Ospisil et al., 2022). Today, leisure is known as a new indicator of social well-being. Its existence and importance may be the result of the growth of the industry and consumerism. The purpose of these activities is to feel refreshed and satisfied, to gain peace and pleasure. In addition, leisure is a source for improving the quality of life of people who do not do anything compulsorily, but their time is spent for themselves and their desires. Spending leisure time usually occurs in two forms, legal and illegal, which take place in different forms and can, directly and indirectly, affect the economy, income, well-being, and other social and economic components pertaining to households, especially rural families. This study focuses on spending illegal leisure time, namely, betting games and gambling.

Currently, betting and gambling are widely accepted and regulated in different countries (Njonge & Ronoh, 2022). Bets have different types, such as poker, dice, cards, animals, and football betting games, which are legalized and available in many countries, including Australia, America, New Zealand, and Colombia; nevertheless. In Islamic countries such as Iran, Afghanistan, and Iraq, these activities are forbidden and penalized according to the laws. Betting when it goes out of control is a behavior that causes irreversible damage to individuals and their families in some countries. In fact, harmful entertainments, associated with economic and social damages, have permanent effects such as depression, family problems, addiction, unemployment, poverty, divorce, bankruptcy, crime, and suicide, as well as increasing tension between the gambler and the family members (Williams, 2011).

Other ensuing predicaments of gambling can be financial problems, legal issues, personal problems, violence, mental health, creating stress in children, psychological problems, and physical problems. Nonetheless, some effects can be individual refreshments and helping improve the quality of life and household income (Salonen, 2016).

Today, refreshment is eventually a development goal, and the society which is trying to get it will achieve future social stability (Sadeghi et al., 2022); However, the damages caused by gambling take away the quality of life and the level of satisfaction. The quality of life and the level of satisfaction are also related to other factors such as income, the level of poverty, the quality of leisure time, the level of social rights, the level of mental health of people, the level of security, cultural and recreational facilities.

In rural societies such as villagers in Guilan Province of Iran, there are both legal and illegal leisure activities. In some periods, one type exceeds the other. Social, economic, geographical and environmental conditions are influential factors as well.

The active legal forms of leisure activities are festivals and local ceremonies in Guilan. Illegal activities, on the other hand, are associated with betting on animals such as cows, pigeons, dogs, and roosters, in addition to sports betting games like tutu (betting on football). One of the most famous types of leisure time in the villages of Guilan, particularly Kuchesfahan District, is Varza Jang (fighting between indigenous-breed bulls). Although these animal fight competitions are illegal, fans secretly participate in betting out of the sight of the police. Each year, more than a dozen fights are held in the region. While this is a recreational activity and a part of the everyday life of the villagers, it can be detrimental to households. These people continuously participate in betting and ignore the fact that this activity will jeopardize their family, career, financial and psychological life. Financial resources especially are mainly engaged. Since these resources are not usually stable, losing them is expected, which has many consequences for insecure rural households, like financial obligations and property auctions. Eventually, it will result in household members' dissatisfaction due to income instability.

These types of activities, whether occasionally positive (due to the temporary refreshment) or negative (due to the loss of financial resources of rural households), are the cause of severe tensions and the instability of the quality of life, as well as the economic predicaments of the rural households involved in Varza Jang competitions.

For this purpose, this study aims to investigate the social consequences of Varza Jang, a type of illegal leisure time carried out in Kuchesfahan District. The main question of the research is: what are the effects of Varza Jang and the social impact on the rural households involved in this activity?

2. Research Theoretical Literature

Leisure time as a part of human life is a complex phenomenon that is studied and discussed in philosophy, cultural anthropology, psychology and especially in sociology (Ospíšil et al., 2022). Free time activity is essentially a product of 20th-century capitalism and as a concept, many thinkers try to interpret and define it (Njonge & Ronoh, 2022). Leisure is defined as the free time that one can use after doing necessary things in life (Leitner & Michael, 2004).

In this view, free time is separated from other aspects of life. Therefore, this time is frivolous and idle, which states a liberating factor of human nature. Thus, free time can become a goal, which causes internal satisfaction and requires patience, skill and effort. In this regard, we can refer to Dumazedier's and David Riesman's theories. According to Dumazedier, leisure time includes a set of activities a person does willingly. The purpose of this activity can be resting, variety, expanding knowledge (non-material goals), or participating in social activities other than a family, job, and other social requirements (Ardalan, 1975). Dumazedier divided leisure into five categories, including physical, artistic, intellectual, practical and social leisure (Arfai Ainuddin, 2009).

Riesman, in the book "The Lonely Crowd", explains that leisure is an opportunity for adapting human beings to the consumer and industrialized societies. But unfortunately, these societies degrade humans, and leisure responds to this degradation (Pour Soltani, and Ghaibizadeh, 2010: 80).

From another point of view, leisure is an activity. Advocates of this standpoint describe leisure as recreation time instead of free time. In other words, how to fill their free time is more important than having it (Beloševi & Feri'c, 2022). These can include many activities people use to entertain themselves or add to their knowledge and skills. Indeed, leisure as an activity is a relatively traditional perception of free time, which describes voluntary and satisfying as well as educational activities.

Similarly, some believe that leisure is an opportunity to engage in some serious or rather lively activities apart from the necessities of life (Torkildsen, 2012). leisure is not a mental state, but it refers to a state of being. This is a psychological approach which considers the mental dimension of the phenomenon (Baranowski & Mroczkowska, 2021). Kross believes that leisure is a state of mind or a very desirable state of being resulting from participating in activities with intrinsic motivations. The followers of this point of view believe that freedom from compulsions and work should be highlighted more in the definition.

In this regard, the American sociologist Max Kaplan, in his book "Leisure in America", considers leisure as opposed to work. According to him, leisure is pleasant memories, freedom from social duties, psychological perception of freedom and cultural activity, and essentially a game. The content was not Kaplan's focus; instead, he underscores humans' relationships with these activities (Jalali Farahani, 2010). In economic studies, a new field of research called happiness combines economics with other fields such as psychology and sociology, quantitatively and theoretically studying happiness, positive and negative emotions, well-being, quality of life, and life satisfaction (Graham, 2001). Happiness theories have discussed the objective factors and improvement of material conditions on people's satisfaction. However, most of these studies concluded that objective conditions alone do not determine people's happiness levels. Proponents of this view believe that money has led to dismissing the personal and intimate aspects, hence intensifying anxieties and reducing satisfaction (Sadeghi et al., 2020).

In Klinger's view, leisure can only mean having free work and life requirements and may not be realized as recreational activities. However, from a holistic point of view, Eddington asserts that work and leisure are closely related and inseparable (Leitner & Michael, 2004).

The view of leisure as a way of life: In this view, free time seems to be a very idealistic way of life and can be possible to have only for a few people. This view is more similar to Aristotle's theory, which views leisure as a state of being free from the necessity of working (Jenkins & Pigram, 2004). Regardless of the different viewpoints regarding the nature of leisure, which stems from their

philosophy of life, they all agree on the benefits of spending leisure time on personal and social health. Thorstein Veblen is one of the pioneers in this field who has studied and explained leisure as an independent subject and theorized about the changing role and function of leisure in a new society. In his opinion, conspicuous and dramatic consumption and leisure are a way to represent dignity and social status so that people appear superior in the eyes of others. The lifestyle of the superior class is combined with leisure and consumption. According to Veblen, the entire social structure is filled with significant consumption and a lifestyle based on prosperity and leisure in modern societies (Raf'at Jah et al., 2010: 9). Adorno also says that in the past, leisure was for the elites. Hence, a person achieves a kind of independence and maturity.

In contrast, the means of mass communication, in the present time, remove maturity and have turned leisure into consuming cultural products. For instance, gambling is a modern leisure activity known as illegal entertainment and leisure in most countries (Njonge & Ronoh, 2022). Therefore, leisure and how to spend it is one of the basic signs of lifestyle. In other words, people's lifestyle usually shows itself in spending free time.

In the modern era, Max Weber initiated the study of lifestyle and leisure and connected it with the concept of prestige (Khaja Nouri & Moghadasi, 2008). Finally, leisure time as a part of human life is a complex phenomenon studied and discussed in philosophy, cultural anthropology, psychology and especially sociology.

As societies pass from traditional to modern (post-industrial), people devote much time to work to have more money for their free time. The growth of wealth and the increase in purchasing power has a direct and significant relationship with one's free time. For this reason, new forms of leisure have been created since the end of the 20th century. In the following, Table 1 shows the summaries of the latest studies regarding the consequences and role of illegal leisure time, emphasizing gambling.

Table 1. Summaries of background studies

Author	Methodology	Purpose	Results
Maarifand et al. (2016)	Content analysis	Types of legal and illegal betting in Iran and gambling complications	Gambling is their occupation, and its consequences include family problems, addiction, suicide, debt stress, financial problems, legal issues, and tension in the family.
Parvin et al. (2015).	Thematic analysis method and Wolcott's method	The social disorganization and latent urban pathologies in the Harandi neighborhood	Gamblers are primarily men, and gambling space is organized at intersections, neighborhood alleys, and in houses. Gambling is related to all kinds of social damage such as Homelessness, addiction, debt, family disputes, etc. Therefore, the social disorganization of the neighborhood is the reason for this hidden urban problem.
Njonge & Ronoh (2022)	Quantitative-qualitative	Examining gambling activities, reasons for gambling, their attitude towards gambling, and consequences of financial and psychological well-being of young gamblers in Kenya	The increase in the suicide rate, the breakdown of relationships between friends and within families, and financial pressure
Zofcak & Sima (2022)	Quantitative-qualitative	Calculating the social costs of gambling: an economic approach	Reducing social costs and, at the same time, proving the effects of gambling addiction and its spread and the consequences of gambling that affect family and friends. The social costs of gambling should be analyzed with a multidisciplinary analysis according to different locations and related laws.
Badji et al (2021)	Qualitative	Examining the consequences of accessibility to gambling	People who live near gambling places are more likely to gamble, so less well-being, more financial problems, and more mental health problems are reported from these places.
Latvala et al. (2019)	Structural model	A conceptual model of the consequences of gambling and creating a conceptual model	In addition to economic effects, gambling has many social effects that are usually overlooked.

Author	Methodology	Purpose	Results
Ahaibwe et al. (2016)	Quantitative and qualitative	An overview of gambling and understanding the effects of gambling in Uganda	There is a significant relationship between age/gender and participation in gambling and between gambling and employment. Gambling causes loss of family welfare, violence, financial problems, crime, divorce, and poverty. The level of youth unemployment is associated mainly with the popularity of gambling, and the demand for gambling also declines with age and income factors.
Wu & Shyan Chen (2015)	Independent T-test	Reviewing the effects of casinos and gambling on residents, experiences from Macao and Singapore	Establishing casinos and gambling is one of the fastest ways to stimulate tourism in many countries (Japan and Vietnam); governments have made tourism development a political goal, and establishing gambling and casinos is crucial in their policy.
Tolchard (2015)	Qualitative	A broad understanding of gambling in rural communities	. Gambling in rural society creates negative social and economic issues, which include illegal activities, personal problems, family problems, crime, prostitution, debt, and mental health.
Downs & Wooierch (2010)	Qualitative	The relationship between gambling and debt, the attitude of gamblers towards money, the role of money as dependence on gambling, the effects of gambling debt on family and employment, and coping strategies of gambling individuals and families.	Gambling and its debts and failure to manage debt repayment include the possibility of returning to gambling, depression, family problems, debt, poverty, pathological disorders, divorce, unemployment, crime and stress in children.

Source: Authors, 2022

The research background review showed that international studies on gambling and betting suggest that they are illegal leisure activities. However, in Iran, detailed and comprehensive studies were conducted on the social effects of illegal leisure time, especially gambling, while rural areas were not the research focus. Therefore, this study aims to scrutinize the social effects of illegal leisure activity in rural households with an emphasis on Varza Jang gambling.

Each of these fields of study is focused on some specific aspects of leisure. Also, a group of people conventionally perceive leisure, and this leisure time has positive consequences expressed in the form of different views. Another group distinguishes it as informal relationships and mentions the consequences as social, individual and family abnormality.

Based on the theories and the perception of leisure time, a conceptual model illustrates the components and indicators affecting the quality of social life (Figure 1).

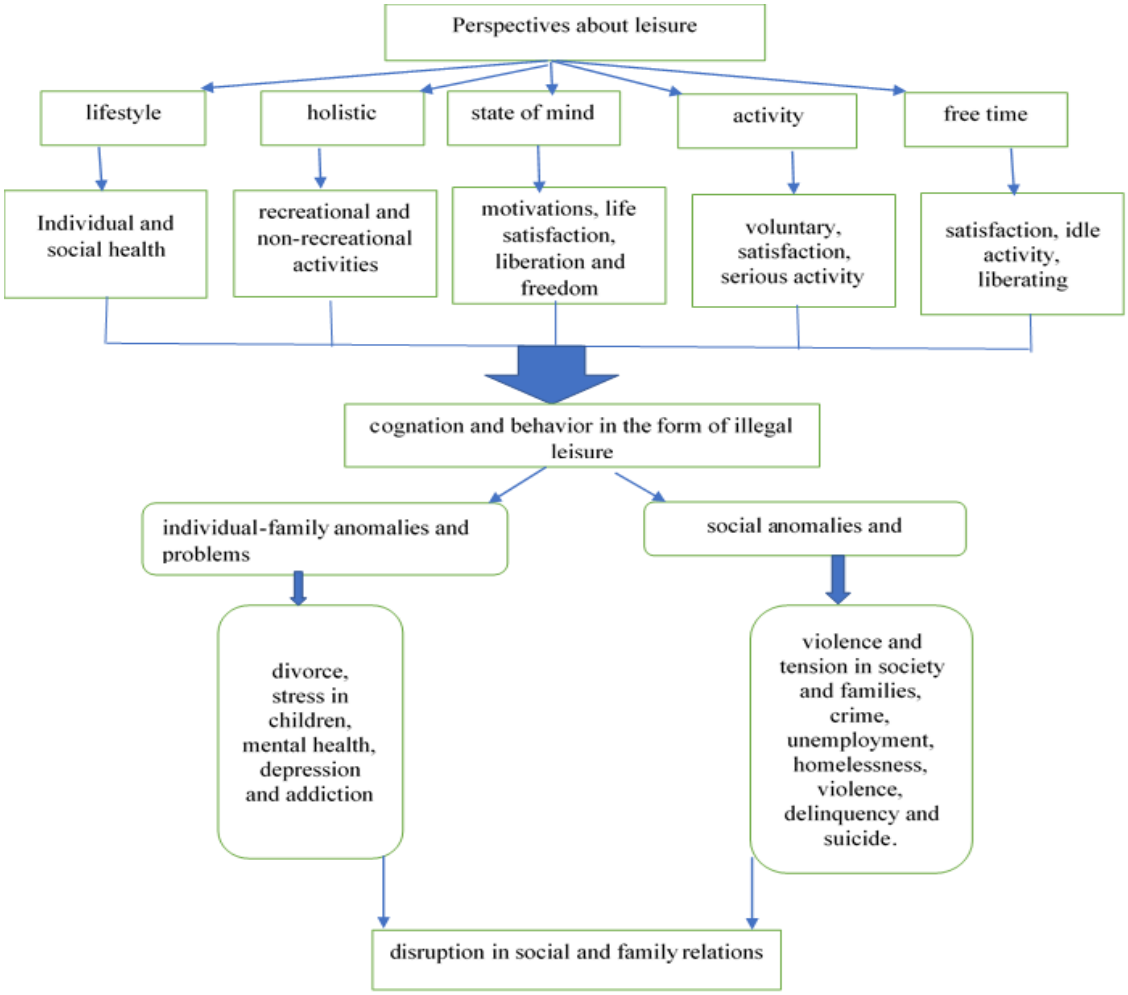

Figure 1. Conceptual model of the study

3. Research Methodology

3.1 Geographical Scope of the Research

The studied area is the villages of Belesbeneh Rural District, Kuchesfahan District of Rasht County, located in Gilan Province. 15 km far from Rasht city, Kuchesfahan District is adjacent to Lasht-e Nesha District from the north, which is connected to the Caspian Sea. From the south, it is limited to Sangar and the Central District of Lahijan. The Central District of Astana Ashrafieh and the Central District of Rasht are next to Kuchesfahan from East and West. Khomam District is also connected to Kuchesfahan through some roads. Thus, Kuchesfahan is located at an intersection.

This district has three rural districts: Kenarsar, Belesbeneh and Lulaman. According to the 2015 census, it has a population of 45,823 people, and 17,019 of them live in 24 villages of Belesbeneh Rural District.

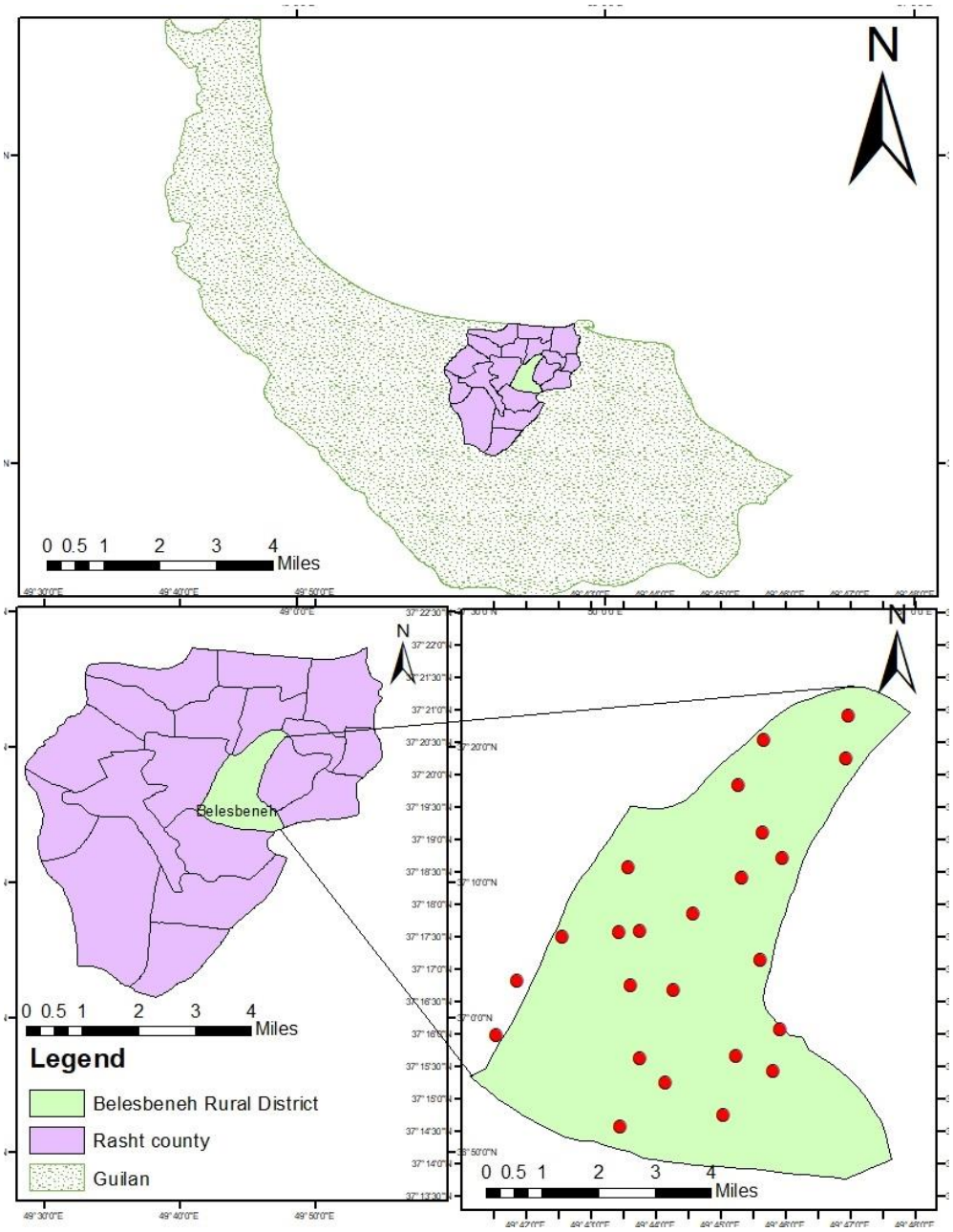

Figure 2. Location of the studied area, authors, 2022

3.2.Methodology

The current study is descriptive-analytical and applied in terms of aim. A theoretical framework was designed by the library research method. The questionnaire with a Likert scale, observation, and interviews with rural households were used for the field study. Observation and interview methods were complementary to quantitative data. The study's statistical population was the rural households of Belesbeneh Rural District (N=5819). 362 rural households were selected using Cochran's formula. 180 people were involved in illegal leisure activities, and 182 were not involved. Table 2 shows the villages, household numbers and the number of samples according to the distribution ratio.

Table 2.The names of the villages and the number of involved and non-involved households

Village	Households (2016)	Households involved in illegal activities	Households not involved in illegal activities	Number of samples of involved households	The number of samples of non-involved household
Ahmad Sara	17	5	12	1	1
Imanabad	176	75	101	5	6
Bala Mahalleh Barka Deh	106	50	56	3	3
Barka Deh-e Paeen	455	300	155	20	9
Belesbeneh	492	200	292	13	17
Pashkeh	207	75	132	5	8
Jafarabad	369	50	319	3	19
Jir Sara	254	60	194	4	11
Hasanabad	91	45	46	3	3
Hashkova	315	200	115	13	7
Khesht Masjed	292	80	212	5	12
Sadeh	654	600	54	40	3
Siah Sufian	156	90	66	6	4
Shekar Sara	169	80	89	5	5
Ali Sara	53	35	18	2	1
Ali Nowdeh	130	80	50	5	3
Fashkecheh	159	95	64	6	4
Kalmarz	93	40	53	3	3
Gurab Sar	252	95	157	6	9
Laleh Dasht	220	90	130	6	8
Mozhdah	520	150	370	10	22
Molla Sara	308	100	208	7	12
Now Estalakh	93	30	63	2	4
Navideh	238	100	138	7	8
Total	5819	2725	3094	180	182

Source: Field data collection of researchers 2022

Statistical methods were used to answer the research question and analyze the data. First, we used descriptive statistics to understand the respondents' demographic characteristics, revealing some points about the population. Meanwhile, we analyze the data by inferential statistics and one-sample t-tests to investigate the effects of gambling on social, individual and family anomalies in rural households of Belesbeneh Rural District.

Afterwards, each indicator was ranked using the Friedman rank test, and finally, path analysis was used to investigate the direct, indirect and overall effects of the component.

The validity of the questionnaire was measured and approved by ten professors in the fields of social sciences, psychology and geography. A preliminary sample of 40 questionnaires was taken to measure reliability, and the reliability coefficient was calculated using Cronbach's alpha method. The obtained total alpha is 0.88, higher than 0.70, so the scale had acceptable reliability (Table 3).

Table 3. The amount of alpha calculated for each of the indicators

Components	Indicator	Metrics	Number of items	Mean	Cronbach's alpha
Social anomalies and problems	Crime	Conflicts - violent crimes - mugging	4	3.27	0.636
	Unemployment	Low income - lack of job opportunities - unemployment	3	3.75	0.589

Components	Indicator	Metrics	Number of items	Mean	Cronbach's alpha
	Homelessness	Debt - evacuation - loss of property	3	2.87	0.567
	Violence and tension in the family	Bad temper and anger - beating for the debt - being blamed	4	3.86	0.804
	Crime	Gambling and committing theft - Environment prone to gambling - Money circulation in gambling	4	3.08	0.206
	Suicide	Due to bankruptcies	2	1.39	0.938
Social anomalies and problems			20	3.04	0.823
Individual and family anomalies and problems	Separation and divorce	Feeling of shame - Ignoring the family - Conflict between married children - Divorce -	5	2.89	0.788
	Stress in children	Stress and anxiety - fear in children - parental indifference	3	91/3	647/0
	Mental health	Having peace - getting used to gambling - fear and anxiety	4	3.39	0.489
	Depression	Pressure - Gambling depression	2	3.48	0.351
	Addiction	Tendency to drugs and alcohol - alcohol use of gambling - Using drugs and alcohol because of being away from home	3	3.47	0.841
Individual and family anomalies and problems			17	3.43	0.801
Total			37	3.23	0.880

(Source: findings of the study, 2022)

4. Research Findings

The most frequent age group of respondents in the non-involved households belongs to the 41-50-year group (36.9%), and the involved households belong to the 40-31 age group (37.4%). 87.4% of the non-involved respondents were male, while 100% of the respondent were male in the involved group. Regarding education, 40.1% of non-involved households and 56.1% of involved households had elementary to middle school education. In addition, 33% of non-involved respondents and 43.3% of involved respondents were engaged in agricultural activities. Regarding marriage, 98.4% of non-involved respondents and 99.4% of involved respondents were married, and the rest were single (Table 4).

Table 4. characteristics of the respondents

Characteristics	Maximums	Non-involved households		Involved households	
		Frequency	Per cent	Frequency	Per cent
Age	Non-involved households 41-50 Involved households 31-40	66	36.**9**	**67**	**37.4**
Gender	Male	159	**87.4**	**180**	**100**
Marital status	Married	179	**98.4**	**179**	**99.4**
Education	Elementary to middle school	73	**40.1**	**101**	**56.1**
Job	Agriculture	60	**33**	**78**	**43.3**
Number of the family members	Four members	63	**34.6**	**63**	**35**

Source: Research findings, 2022

4.1.Determining the effects of betting on the social indicators of rural households

The effects of gambling on the indicators of the two components of social and individual anomalies among rural households were analyzed with a one-sample T-test. The spectrum range is between 1 and 5 based on the Likert scale. This rate was evaluated to be higher than the cardinal utility (3) for all indicators of the two components of social and individual-family anomalies except for suicide, homelessness and divorce. This difference is significant for all indicators at the alpha level of 0.000.

The findings show that the children's stress indicator, with a score of 3.914, in the component of individual and family abnormalities, is at a higher level than other indicators of this component. This score shows the effects of gambling on children in the family. After the loss of property by the head of the household and serious problems due to losing bets, children usually feel fear, stress and anxiety. Children can be in two categories. First, children facing this issue directly have fear, stress and anxiety due to the fear of losing and their animal getting injured in war. There are many of these cases in villages. The other group of children are indirectly involved with gambling and feel fear and anger of their parents after every loss when their fathers start complaining and bad tempering and make the children stressed before and after every bet.

These issues impose severe damage on both groups of children. Moreover, the violence indicator with a score of 3.863, in the component of social anomalies, is at a higher level than other indicators. This score implies that people involved in betting face the loss of property and cannot hide it from their families. They will be interrogated and held accountable by the family because hiding such losses is difficult for the people involved. Because spouses share all the properties and assets with their partners, losing property can inevitably lead to quarrels and conflicts. This situation will continuously increase grudges in the family.

Table 5. Examining the effects of betting on the indicators of two components of social anomalies and family anomalies using a t-test

Cardinal utility= 3							
Indicator	Mean	T-statistic	Degrees of freedom	Significance	Mean difference	95% confidence interval	
						Low	High
Crime	3.268	6.389	359	0.000	0.268	0.18	0.35
Unemployment	3.275	18.622	359	0.000	0.753	0.68	0.83
Homelessness	2.875	-2.754	359	0.006	-0.124	-0.21	-0.03
Violence	3.863	21.091	359	0.000	0.863	0.78	0.94
Crime	3.086	3.351	359	0.001	0.086	0.03	0.13
Suicide	1.391	-39.499	359	0.000	-1.608	-1.68	-1.52
Divorce	2.894	-2.386	359	0.018	-0.105	-0.19	-0.01
Stress in children	3.914	20.715	359	0.000	0.914	0.82	-1.00
Mental health	3.397	10.705	359	0.000	0.397	0.32	0.47
Depression	3.480	10.121	359	0.000	0.480	0.38	0.57
Addiction	3.479	8.955	359	0.000	0.479	0.37	0.58

Source: findings of the study, 2022

4.2. The rank of the gambling social effects among rural households

We used Friedman Test to explain the rank of the indicators. This test is a suitable tool for analyzing the difference in the mean of the indicators compared with each other.

As shown in table (6) show, the analysis of the mean difference of the indicators is completely significant because of the alpha level of 0.01. Among these, the highest mean ranks are (3.941) and (3.863) for stress in children and violence and tension, respectively. Therefore, it can be confirmed that betting and gambling in forms of abnormalities in individuals, families and society cause stress in children and violence and social tensions. On the other hand, the lowest average rank among indicators of both components is for suicide, with a mean rank of 1.391.

There is no report of suicide among the groups involved and not involved in the gambling.

Table 6. The significance of the mean difference in the effects of gambling in the studied villages

Indicator	Number	Arithmetic mean	Mean rank	Rank
Crime	360	3.268	5.84	7
Unemployment	360	3.275	7.86	3
Homelessness	360	2.875	4.44	9
Violence	360	3.863	8.30	2
Crime	360	3.086	5.14	8
Suicide	360	1.391	1.60	11
Divorce	360	2.894	4.29	10
Stress in children	360	3.914	41/8	1
Mental health	360	3.397	6.30	6
Depression	360	3.480	6.86	5
Addiction	360	3.479	97/6	4
Chi-square	1418.400			
Degree of freedom	10			
Significance level	0.000			

Source: findings of the study, 2022

4.3. Determining the most influential indicators of social and individual, and family anomalies

Path analysis was used to determine the most important indicators affecting the component of social anomalies. As table (7) shows, one unit of change in the standard deviation will change the indicators of crime, unemployment, homelessness, violence, delinquency and suicide, respectively by (0.366), (0.100) 0), (0.070), 0.114), (0.138) and (0.216). Among the indicators of the social anomalies component, the highest effect was related to crime and the lowest effect was related to homelessness.

Table 7. Coefficients of the intensity of relationships between the indicators of social anomalies

Variables	Standard coefficient	Unstandardized coefficient		T	Significance level
	Beta	Standard error	B		
Intercept	-	0.159	2.585	16.286	0.000
Crime	0.366	0.033	0.211	6.305	0.000
Unemployment	0.100	0.034	0.060	1.788	0.075
Homelessness	0.070	0.030	0.038	1.270	0.205
Violence	0.114	0.034	0.06	1.981	0.048
Crime	0.138	0.051	-0.130	2.565	0.011
Suicide	0.216	0.029	0.129	-4.477	0.000

Source: findings of the study, 2022

For the component of individual and family, the highest overall effect is related to the crime indicator with a score of 0.366, while the homelessness indicator with a score of 0.070 has the lowest overall effect. The overall effects indicate that betting and gambling were effective in all indicators of social anomalies, and the amount of crime indicator was higher than other indicators.

Table 8. Measuring the amount of direct, indirect and overall effects of gambling on the indicators of the social anomaly component

Variables	Direct effect	Indirect effect	Overall effect	Priority
Crime	0.366	0.132	0.498	1
Unemployment	0.100	-	0.100	5
Homelessness	0.070	-	0.070	6
Violence	0.114	-	0.114	4
Crime	0.138	0.023	0.161	3
Suicide	0.216	0.068	0.284	2

Source: findings of the study, 2022

The direct and indirect effects of indicators of social anomalies are shown in Figure (3).

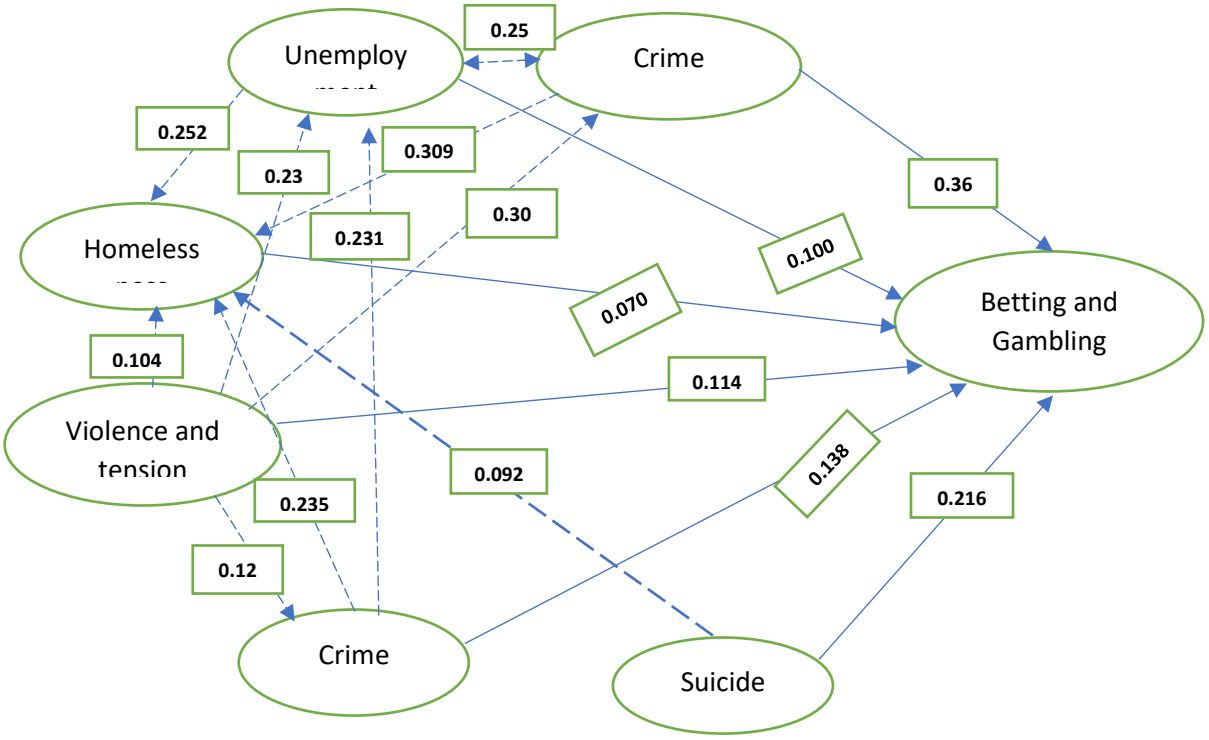

Figure 3. Path analysis model of factors and variables of gambling effects on social anomalies

As table (9) shows, one unit of change in the standard deviation will increase individual and family abnormalities, including divorce, the stress in children, mental health, depression and addiction to (0.122), 0.053), (0.240), (0.079) and (0.087), respectively. Among the indicators of individual and family abnormalities, the highest effect was related to mental health, and the lowest was related to stress in children.

Table 9. Coefficients of the intensity of relationships between the indicators of social anomalies

Variables	Standard coefficient	Unstandardized coefficient		T	Significance level
	Beta	Standard error	B		
Intercept	-	0.153	2.237	14.620	0.000
Divorce	0.122	0.031	0.067	2.141	0.033
Stress in children	0.053	0.030	0.029	0.927	0.332
Mental health	0.240	0.036	0.156	4.356	0.000
Depression	0.079	0.028	0.040	1.446	0.149
Addiction	0.087	0.025	0.039	0.087	0.120

Source: findings of the study, 2022

For the component of individual and family anomalies, the highest overall effect is related to the mental health indicator, with a score of 0.265. The stress in children indicator with a score of 0.053 has the lowest overall effect in the studied area. The overall effects indicate that betting and gambling were effective in all indicators of social anomalies, and the number of mental health indicators was higher than other indicators.

Table 10. Measuring the amount of direct, indirect and overall effects of gambling on the indicators of the social anomaly component

Variables	Direct impact	Indirect effect	Overall effect	Priority
Divorce	0.122	0.014	0.136	2
Stress in children	0.053	-	0.053	5
Mental health	0.240	0.025	0.265	1
Depression	0.079	-	-	4
Addiction	0.087	0.012	0.099	3

Source: findings of the study, 2022

The direct and indirect effects of indicators of family anomalies are shown in Figure (4).

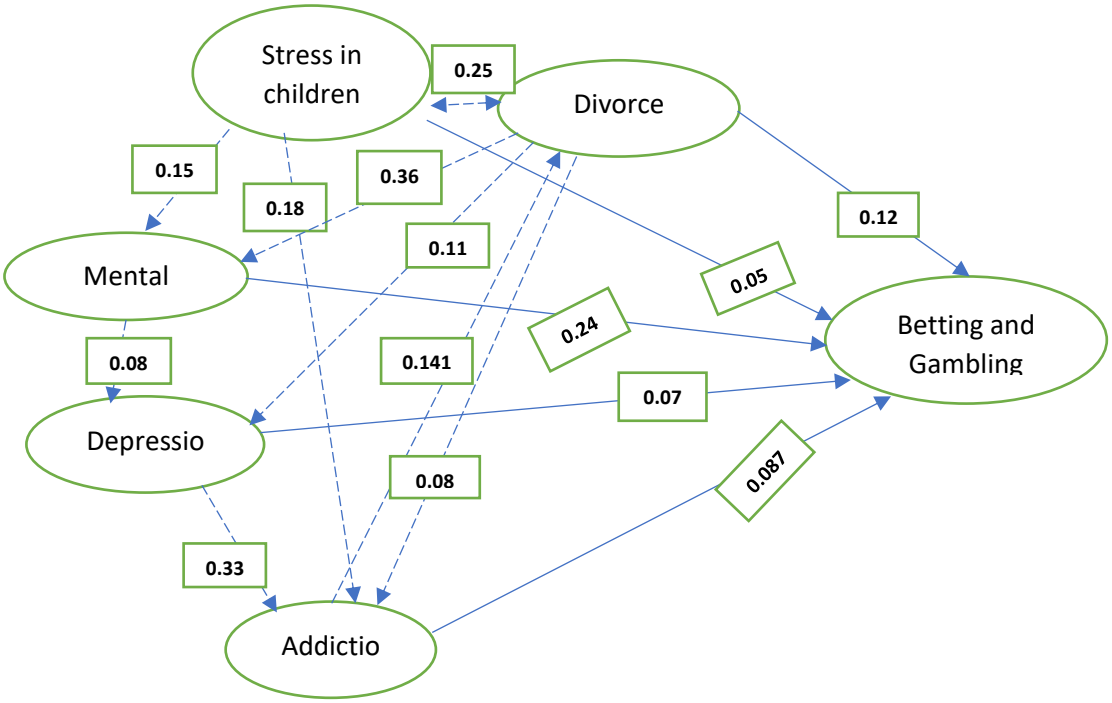

Figure 4. Path analysis model of factors and variables of gambling effects on individual and family abnormalities

5. Discussion and Conclusion

This study investigated Varza Jan as a gambling practice, and its effects on social anomalies are evident in tables 4 and 5. Rural households in Belesbeneh are facing important social problems such as stress in children, violence and tension, crime, mental health, unemployment, addiction and depression. The stress indicator in the children ranked first in the studied villages, which indicates the adverse effects of the parents' gambling on youngsters. The children whose parents gamble experience the fear and anxiety of losing money and property and the anger of parents after losing in Varza Jang or any other type of gambling. However, some children, like their father and other family members, are involved in illegal leisure activities like Varza Jang. They even train Varzas (bulls), and their goal and interest are to win in the battles. One of the causes of stress in children can be the battle stress children have when their favorite bull has a battle.

Family violence and tension are also related to losing money or assets, even after each loss. Consequently, anger and conflicts among family members can make life difficult for other family members. Another reason for the social effects at the village level is unemployment. Unemployment can play a role in this rural district in two ways.

On the one hand, some people involved in gambling activities spend the first six months of the

year (spring and summer) farming in the fields, and after this period, they usually spend their time in stores and coffee shops in the village. Some of these farmers are interested in betting and gambling and might lose their six-month profits from farming. Some of the farmers do not even possess any land, and they work on other people's land. Therefore, they lose the income which should have been spent on their family. Those who indulge in bets will not get jobs on land, and this causes people to become unemployed and lose their income, which can bring other adverse social effects to families. On the other hand, other groups of people have other sources of income besides agriculture.

They also spend their free time betting and enjoying. They are usually less engaged with family life and try to spend their pastimes. The lack of job opportunities in the village makes people interested in betting and gambling.

Some successful gamblers started with a small amount of money and made it overnight. As a result, they have a social status in society. This situation will inspire others to gamble, even though they will not always be winners. After each loss, the new gamblers should compensate for the losses, and after a few losses, they will bury themselves in debts and family problems. What can help them ignore their piled-up problem is psychedelic drugs and alcohol. It is evident that the social anomalies and individual and family problems because of spending on illegal leisure are interconnected.

The findings of this research on the stress in children indicator are aligned with Downs & Wooierch (2010) and on violence and tension in the family with Wu & Shyan Chen (2015), Ahaibwe et al. (2016) and Maarifand et al. (2016). Also, the unemployment indicator is aligned with Ahaibwe et al. (2016) and Downs and Woolrych (2010). The addiction indicator is consistent with the studies of Williams (2011), Maarifand et al. (2016) and Parvin et al. (2016).

The Depression indicator confirms the findings of Drabach (2003), Parvin et al. (2016); the mental health indicator is consistent with Zhan's study (2009); the crime indicator is aligned with Drabach (2003) and Tolchard (2015). Other finding consistency is in the homelessness indicator with Parvin et al. (2016), Downs and Woolrych (2010), Williams (2011) and Ahaibwe et al. (2016), and finally, the suicide indicator with Maarifand et al. (2016).

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Authors' contributions

The authors equally contributed to the preparation of this article**.**

Conflict of interest

The authors declare no conflict of interest.

References

1. Ahaibwe, G., Lakuma, C. P., Katunze, M., & Mawejje, J. (2016). Socio-Economic Effects of Gambling: Evidence from Kampala City. *Uganda, Towards Sustainable Development*, 126, 1- 40. https://doi.10.22004/ag.econ.234554.
2. Ardalan, F. (1975). *Sociology of Leisure Time* [Class handout]. Tehran: University of Tehran, Faculty of Social Sciences. [In Persian]
3. Arfai Ainuddin, R., Hezarjaribi, J., & Sam Aram, A. (2008). *Investigating the relationship between leisure time and social health, Faculty of Social Sciences*. Allameh Tabatabai University press, page 55.
4. Badji, S., Black, N., & Johnston, D. W. (2021). Consequences of Greater Gambling Accessibility, Centre for Health Economics, Monash Business School, Monash University, 900 Dandenong Road, Caulfield East VIC 3145, Australia. JEL Codes: D1, H7, I1, I3. https://monash-ch-ecwps.s3.amazonaws.com/RePEc/mhe/ chemon/2021-06.pdf
5. Baranowski, M., & Mroczkowska, D. (2021). Algorithmic automation of leisure from a sustainable development perspective. *Handbook of Sustainable Development and Leisure Services*, 21-38. https://doi.org/10.1007/978-3-030-59820-4_2.
6. Belošević, M., & Ferić, M. (2022). Contribution of leisure context, motivation and experience to the frequency of participation in structured leisure activities among adolescents. *International journal of environmental research and public health*, *19*(2), 877. https://doi.org/10.3390/ijerph19020877.

7. Downs, C., & Woolrych, R. (2010). Gambling and debt: The hidden impacts on family and work life. *Community, Work & Family*, *13*(3), 311-328. https://doi.org/10.1080/13668803.2010.488096.
8. Graham,C.S., & Pettinato, S. (2001). Happiness, Markets, and Democracy: Latin American in Comparative Research. *Journal of Happiness Studies*, 2, 237-268. https://doi.org/10.1023/A:1011860027447.
9. Jalali Farahani, M. (2009). *Management of leisure time and recreational sports*. Tehran: University of Tehran Press. [In Persian]
10. Jenkins, J., & Pigram, J. (2004). *Encyclopedia of leisure and outdoor recreation.* Routledge. https://doi.org/10.4324/9780203647394
11. Khaja Nouri, B., & Moghadas, A. (2008). Investigating the social and cultural factors affecting the amount of leisure time, a case study of high school students in Abadeh County. *Humanities and Social Sciences Research Journal*, 8(2), 133–155. [In Persian] https://www.sid.ir/fa/Journal/ViewPaper.aspx?ID=83622
12. Latvala, T., Lintonen, T., & Konu, A. (2019). Public health effects of gambling – debate on a conceptual model. *BMC Public Health*, 19(1077), 1-16. https://doi.org/10.1186/s12889-019-7391-z.
13. Leitner, Michael, J. F., & Leitner, S. (2004). *Leisure Enhancement*, (3Th Ed.). New York: The Haworth Press. ISBN ebook: 978-1-57167-649-x.
14. Maarifand, M., Mardaneh Jobehdar, M., Zamani Z., & Morshedi Z. (2016). Different forms of gambling and its impacts; a Qualitative Research. *Social working*, 5(3), 41-50. [In Persian] http://socialworkmag.ir/article-1-206-fa.html.
15. Njonge, T., & Ronoh, T. K. (2022). Influence of gambling on the psychological wellness of young people in Njokerio village of Nakuru County, Kenya. *Editon Consortium Journal of Psychology, Guidance & Counseling*, *4*(1), 266-278. https://doi.org/10.51317/ecjpgc.v4i1.371
16. Parvin, S. Darvishi Fard, A.A. Kazemi, G. (2016). The social disorganization and latent urban pathologies in the Harandi neighborhood. *Sociological Review*, 23(48), 91-121. [In Persian] https://jsr.ut.ac.ir/article_58628.html
17. Pospíšil, J., ospíšilová, H., & Trochtová, L. (2022). The Catalogue of Leisure Activities: A New Structured Values and Content-Based Instrument for Leisure Research Usable for Social Development and Community Planning. *Sustainability*, 14, 1-23. https://doi.org/10.3390/su14052657.
18. Pour Soltani, h., & Ghaibizadeh, A. (2010). *Leisure time, planning Iranians' leisure time, religious and Islamic aspects of leisure time*. Tehran: Sports, Bammad Ketab Publications, page 80. [In Persian]
19. Raf'at Jah, M., Rashwand, M., & Shahidi Zandi, M. (2010). Sociological explanation of leisure activities of young girls and its pathological factors. *Women Research*, 13(50), 29–80. [In Persian] 20.1001.1.20082827.1389.13.50.3.6
20. Sadeghi, K, Hajinejad, A. Bazafshan, J., & Yasoori, M. (2020). Investigating the Factors Affecting the Vitality and Liveliness of Rural Households (Case Study: Fuman County). *Journal of Rural Research*, 11(2), 250-269. [In Persian] http://dx.doi.org/ 10.22059/jrur.2020.291906.1416
21. Sadeghi, K, Hajinejad, A. Bazafshan, J., & Yasoori, M. (2022). A comparative study of factors affecting the happiness and refreshment of rural households Case: Villages of Torbat-e-Heydariyeh and Fooman county. *Human Geographical Research*, [in press manuscript]. [In Persian]10.22059/JHGR.2022.327260.1008345
22. Salonen, AH, Alho, H., & Castren, S. (2016). The extent and type of gambling harm concerned significant others. A cross-sectional population study in Finland. *Scandinavian Journal of Public Health*, 44, 799-804. https://doi.org/10.1177/1403494816673529.
23. Tolchard, B., & Battersby, M. (2015). Nurse Behavioural Psychotherapy and Pathological Gambling: An Australian Perspective. *Journal of Psychiatric and Mental Health Nursing*, 7(4), 335–342. https://doi.org/10.1046/j.1365-2850.2000.00273.x.
24. Torkildsen, G. (2012). *Leisure and Recreation Management*. London: Routledge. https:// doi.org/ 10.4324/9780203477571.
25. Williams, R. J., Rehm, J., & Stevens, R. M. (2011). *The social and economic impacts of gambling*. Faculty of Health Sciences. Final Report Prepared for the Canadian Consortium for Gambling.

26. Wu, Sh.T., & Chen, Y. Sh. (2015). The Social Economic and Environmental Impact of Casino Gambling on the Residents of Singapore. P:287. https://doi.org/10.1016/j.tourman.2014.11.013.
27. Žofčák, J., & Šíma, J. (2022). Revision of Social Costs of Gambling in the Czech Republic. *International Joint Conference, Bratislava*, May 19 – 20, 2022, PP. 142-154. https:// doi.org/ 10.18267/ pr. 2022.kre.2454.14.

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Original Article

نقش اوقات فراغت غیرقانونی بر شرایط اجتماعی خانوارهای روستایی (مطالعه موردی: شرط بندی و قمار ورزا جنگ در دهستان بلسبنه شهرستان رشت)

ام البنین احمدی گورابسری[۱]- علی حاجی‌نژاد[۲*]- مجید یاسوری[۳]

۱- کارشناسی ارشد جغرافیا و برنامه‌ریزی روستایی، دانشگاه گیلان، رشت، ایران
۲- دانشیار جغرافیا و برنامه‌ریزی روستایی، دانشگاه گیلان، رشت، ایران
۳- استاد جغرافیا و برنامه‌ریزی روستایی، دانشگاه گیلان، رشت، ایران

چکیده مبسوط

۱.مقدمه

اوقات فراغت یکی از عوامل مهم تاثیرگذار بر رشد فردی، شکل دادن به هویت اجتماعی و تاثیرگذار بر ایجاد جهان‌های اجتماعی است که به دو شکل قانونی و غیر قانونی رخ می‌دهد؛ و می‌تواند به طور مستقیم و غیر مستقیم بر روی رفاه، آرامش و پاره‌ای دیگر از شاخص‌های اجتماعی و اقتصادی خانوارهای روستایی تاثیر بسزایی داشته باشد. گذران اوقات فراغت غیر قانونی که در این پژوهش مورد نظر است با شرط‌بندی و قمار همراه است. اینگونه تفریحات ناسالم که با آسیب‌های اقتصادی و اجتماعی همراه است، دارای اثرات جبران ناپذیری مانند افسردگی، مشکلات خانوادگی، اعتیاد، بیکاری، فقر، طلاق، ورشکستگی، جنایت، خودکشی و غیره می‌باشد که تنش را در میان فرد قمارباز و اعضای خانواده‌اش ایجاد می‌کند. در جامعه روستایی استان گیلان نیز اوقات فراغت به هر دو شکل قانونی و غیرقانونی وجود دارد. از مشهورترین انواع گذران اوقات فراغت شایع روستایی در منطقه گیلان ورزا جنگ است و یکی از مناطق پر طرفدار برای این نوع از الگوی گذران اوقات فراغت بخش کوچصفهان از توابع شهرستان رشت می‌باشد. از آنجایی که انجام فعالیت‌های گذران اوقات فراغت غیر رسمی بر کیفیت زندگی خانوارهای روستایی دارد لذا توجه و بررسی این موضوع ضرورت دارد؛ برای همین منظور هدف این مطالعه بررسی اثرات اجتماعی، یکی از فعالیت های این دسته از گذران اوقات فراغت که در بخش کوچصفهان تحت عنوان ورزا جنگ انجام می‌گیرد است.

۲. مبانی نظری تحقیق

اوقات فراغت به عنوان بخشی از زندگی انسان، پدیده‌ای پیچیده است که به طور گسترده در فلسفه، انسان‌شناسی فرهنگی، روانشناسی و به ویژه در جامعه شناسی مورد بررسی و بحث قرار گرفته است که تا اندازه زیادی محصول سرمایه‌داری سده بیستم و مفهومی است که از سوی اندیشمندان دارای تعابیر گوناگونی است و در ابتدا به معنای داشتن وقت آزاد به کار گرفته شده است. منظور از وقت آزاد در این دیدگاه، زمان تحت اختیاری است که پس از پرداختن به ضروریات زندگی، در اختیار فرد باقی می‌ماند. همه این رشته‌ها بر جنبه‌های خاصی از اوقات فراغت متمرکز شده‌اند و بسیاری از ویژگی‌های خاص آن در درون آن‌ها شناسایی شده است. گروهی از مردم اوقات فراغت را در قالب رویکرد های متعارف و شناخته شده و هنجار می‌شناسند و این اوقات فراغت دارای پیامدهای مثبتی که در قالب دیدگاههای مختلف بیان شده است. اما یک گروه اوقات فراغت را در قالب مناسبات غیررسمی ادراک می‌کنند و متناسب با ادراکی که دارند گذران اوقات فراغت را ترسیم می‌کنند که پیامدهای آن شامل ناهنجاری اجتماعی و فردی و خانوادگی می‌شود.

۳. روش‌شناسی تحقیق

پژوهش حاضر از نظر هدف، کاربردی و روش انجام آن توصیفی- تحلیلی است. مطالعات نظریه‌ای با استفاده از روش کتابخانه‌ای، داده‌های میدانی نیز از طریق پرسشنامه با طیف لیکرت و مشاهده و مصاحبه با خانوارهای روستایی جمع‌آوری گردید.

*. نویسندهٔ مسئول:
دکتر علی حاجی‌نژاد
آدرس: گروه جغرافیا، دانشکده علوم انسانی، دانشگاه گیلان، رشت. ایران.
پست الکترونیکی: Email: ahajinejad@guilan.ac.ir

جامعه آماری، خانوارهای روستایی دهستان بلسبنه است (N=5819)، ۳۶۲ خانوار روستایی با استفاده از فرمول کوکران انتخاب شد. ابتدا با استفاده از آمار توصیفی، شناختی از ویژگی‌های جمعیت شناختی پاسخ‌دهندگان حاصل شد. در ادامه آمار استنباطی تحقیق مورد برر سی قرار گرفته ا ست و به برای تجزیه و تحلیل این اطلاعات ابندا از آزمو ن‌های t تک‌نمونه‌ای به بررسی میانگین و اثرات ناهنجاری‌های اجتماعی و ناهنجاری‌های فردی و خانوادگی شرط‌بندی و قمار بر خانوارهای رو ستایی دهستان بلسبنه پرداخته شد. در مرحله بعد با ا ستفاده از آزمون رتبه‌ای فریدمن به رتبه‌بندی هریک از شاخص‌ها پرداخته شد و در نهایت با استفاده از تحلیل مسیر به بررسی اثرات مستقیم، غیرمستقیم و کلی هریک از شاخص‌های دو مولفه بر این دو متغیر پرداخته شد.

۴. یافته‌های تحقیق

جهت بررسی اثرت قمار بر شاخص‌های دو مولفه ناهنجاری‌های اجتماعی و فردی از آزمون tتک‌نمونه‌ای ا ستفاده شد. یافته‌های این آزمون نشان می‌دهد، شاخص استرس فرزندان با میانگین (۳/۹۱۴)، از مولفه ناهنجاری‌های فردی و خانوادگی نسبت به سایر شاخص‌های این مولفه در سطح بالاتری قرار دارد؛ که این نشان‌دهنده تاثیرات شرط‌بندی بر فرزندان در خانواده است. برای بیان نقش و جایگاه هر یک از شاخص‌های مورد نظر از آزمون رتبه‌ای فریدمن بهره گرفته شد. نتایج این آزمون نشان داد بیشترین میانگین رتبه‌ای به ترتیب (۳/۹۴۱) و (۳/۸۶۳) به شاخص‌های استرس فرزندان و خشونت و تنش اختصاص یافته است. برای تعیین مهمترین شاخص‌های تاثیرگذار بر مولفه ناهنجاری‌های اجتماعی از تحلیل مسیر استفاده شده است. نتایج این آزمون با توجه به ضریب Beta نشان می‌دهد که یک واحد تغییر در انحراف معیار در شاخص‌های جرم و جنایت، بیکاری، بی خانمانی، خشونت، بزهکاری و خودکشی به ترتیب (۰/۳۶۶)، (۰/۱۰۰)، (۰/۰۷۰)، (۰/۱۱۴)، (۰/۱۳۸) و (۰/۲۱۶)، موجب تاثیرات ناهنجاری‌های اجتماعی در منطقه مورد مطالعه شده ا ست. در میان شاخص‌های مولفه ناهنجاری‌های اجتماعی بیشترین اثر مربوط به جرم و جنایت و کمترین اثر مربوط به شاخص بی‌خانمانی بوده است. همچنین بررسی شاخص‌های تاثیرگذار بر مولفه ناهنجاری‌های فردی و خانوادگی نشان می‌دهد شاخص‌های طلاق، استرس فرزندان، سلامت روانی، افسردگی و اعتیاد به ترتیب (۰/۱۲۲)، ۰/۰۵۳)، (۰/۲۴۰)، (۰/۰۷۹) و (۰/۰۸۷)، موجب تاثیرات ناهنجاری‌های فردی و خانوادگی در منطقه مورد مطالعه شده ا ست. در میان شاخص های مولفه ناهنجاری های فردی و خانوادگی بیشترین اثر مربوط به سلامت روانی و کمترین اثر مربوط به شاخص استرس فرزندان بوده است.

۵. بحث و نتیجه گیری

شرط‌بندی و قمار در ورزا جنگ اثرات زیادی بر ناهنجاری‌های اجتماعی داشته است. خانوارهای روستایی در سطح دهستان بلسبنه با شرط بندی و م سائل اجتماعی مهمی چون ا ستر س در فرزندان، خشونت و تنش، جرم جنایت، سلامت روانی ، بیکاری، اعتیاد و افسردگی در خانواده ها که از شاخص‌های تاثیرگذار از نتایج بد ست آمده در پر س شنامه ها حا صل شده ا ست مواجه ه ستند. شاخص استرس در فرزندان با ا رتبه یک در نتایج آماری در روستاهای مورد مطالعه نشان‌دهنده تاثیرات منفی عمل شرط‌بندی سرپر ست خانوار بر اع ضای خانواده بوده ا ست. خ شونت و تنش در خانواده ها نیز در سطح رو ستاهای مورد مطالعه با از د ست دادن مال و اموال نقدی و غیر نقدی در ارتباط بوده و حتی بعد از هر باختی عصبانیت سرپر ست و اع ضای خانواده می‌تواند زندگی را به کام دیگر اع ضای خانواده تلخ نماید. از دیگر دلایل اثرات اجتماعی در سطح دهستان بیکاری بوده است.

کلیدواژه‌ها: اوقات فراغت، قمار ، شرط‌بندی، ورزاجنگ، دهستان بلسبنه.

تشکر و قدرانی

در پایان از تمامی روستاییان عزیز دهستان بلسبنه که با صبر و شکیبایی پاسخگوی سوالات نویسندگان بودند و همکاری بسیاری داشتند صمیمانه تشکر می‌کنم.

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Original Article

Analyzing the Key Drivers of the Effect of Smart Growth Approach on Sustainable Development of Iranian Rural Settlements

Aliakbar Anabestani [*1], Farokh Legha Bahadori Amjaz [2], Jamileh Tavakolinia [3]

1- Full Prof. in Human Geography and Spatial Planning, Shahid Beheshti University, Tehran, Iran.
2- PhD Candidate in Geography and Rural Planning, Shahid Beheshti University, Tehran, Iran.
3- Associate Prof. in Human Geography and Spatial Planning, Shahid Beheshti University, Tehran, Iran.

Abstract

Purpose- Nowadays, the smart growth approach plays a significant role in sustainable rural development. This approach seeks to improve the quality of human life and respond to socio-economic, environmental and physical problems and issues and can pave the way for rural management in order to make optimal use of facilities and solve rural problems. The purpose of this study is to identify and analyze the drivers of the effect of smart growth approach on sustainable development of rural settlements in Jiroft County .

Design/methodology/approach- This study is applied research and it is descriptive-analytical in terms of nature. Data has been collected through documentary and field study. To extract the key drivers of the effect of smart growth approach on sustainable development of rural settlements in Jiroft county, a questionnaire has been prepared in the form of a Micmac questionnaire and distributed and completed among the sample community. 36 questionnaires were considered for rural experts, relevant organizations. The data analysis and structural analysis of the effect of smart growth approach indicators on the sustainable development of rural settlements were conducted using Micmac software .

Finding- The results showed that among the 57 studied factors, 14 key effective drivers were identified that according to the high score of direct and indirect effect, factors such as utilizing existing infrastructure to increase villagers' employment and income, (direct (+10) indirect (+7205), improving land and housing prices in rural areas, direct (+9) indirect (+6959), villagers' satisfaction of increasing rural relations with outside (city and other villages), direct (+8) indirect (+8356) have the most effect compared to other drivers.

Keywords- Drivers, Smart growth, Sustainable development, Rural settlements, Jiroft County.

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Corresponding Author:
Anabestani, Aliakbar, Ph.D.
Address: Department of Human Geography and Spatial Planning, Faculty of Earth Sciences, Shahid Beheshti University, Tehran, Iran
Tel: +989155719016
E-Mail: a_anabestani@sbu.ac.ir

1. Introduction

The concept of smart growth and how it works in EU policy includes knowledge, innovation, education and research policies; in which smart growth is less related to planning and more concerned with innovation, education and research policies, while in the United States it is more about planning policies to counter urban sprawl development. And this discussion is rather about urban planning and construction policy, particularly the prevention of urban sprawl (Naldi et al., 2015). The terms smart growth and smart development offer options in the fields of housing, transportation, occupations and amenities (including social, cultural, recreational, educational services) and use comprehensive planning for guidance, design, development, management, rehabilitation and building community (Barca et al., 2012; and Combes & Overman, 2004). In general, this approach considers the relationship between development and quality of life; the features and ideas of smart growth in a community vary from place to place. In a general scenario, smart growth invests time and resources and provides new life for the city center and old dilapidated textures. Smart growth takes the redevelopment of developed areas into consideration; in fact, smart growth proponents would like to optimize existing facilities rather than attempting to build new ones (Tsimpo & Wodon, 2018) which is based on three basic principles: 1- Density and compaction (limiting urban horizontal expansion); 2- Mixed uses (combined uses) with a variety of housing types and 3- Implementation of different modes of transportation with a tendency towards public transportation, pedestrian oriented and bicycle-friendly city (Chen et al., 2020). In other words, smart growth is one of the regional planning strategies that aims to create regional balance and prevent disruption in line with sustainable development goals; to put it another way, "smart growth is the planning, design and development of cities, towns, suburbs and rural areas in which seeks to create and promote social equality, a sense of spatial and social belonging and preserve of natural resources alongside cultural resources." smart growth strategies can provide significant benefits to rural communities by preserving their history and identity, making rural settlements more pleasant and livable, sustainable economic development, creating diverse and more affordable housing options and maintaining ecological sustainability (Michaud, 2013: 4; Tregear & Cooper, 2016) and it is worth noting that the challenges facing a rural area in other places, even if they are sometimes similar, can never be the same from country to country. Rural areas or villages also deserve significant growth that creates development to promotes people's lives since rural development is essential to accelerate the overall development of any country. Therefore, there is a need for studies, in terms of conceptual aspects and potential indicators and criteria of smart growth and its determining factors, in which analyze each of the effective factors on the growth potential in a diverse set of rural areas (Galli et al., 2020). Indeed, smart growth emphasizes the ability of rural communities to create and develop new opportunities from their own resources (ENRD, 2018; Zavratnik et al., 2018; Naldi et al., 2015). Accordingly, achieving the goals of sustainable development requires comprehensive planning, considering the spatial elements of the regions and its capabilities in order to guide society on the right path toward smart growth and sustainable development (Ghorbani & Noshad, 2008: 164). In fact, the concept of sustainable development has dramatically changed over the last three decades. The concept of sustainable development, nonetheless, is inherently associated with the future (Tibbs, 2011: 13-32). Indeed, smart growth and how to achieve it is not a new concept (Anabestani & Javanshiri, 2017: 188) and varies from region to region (Randhawa and Kumar, 2017). It is possible through the use of advanced technologies (Caragliu & Del Bo, 2018), information and Communication Technology (Fan Nell et al., 2018,) making all life affairs, including activity, transportation, etc. smart. It provides diverse economic, social (Randhawa & Kumar, 2017) and environmental benefits (Litman, 2005) due to its various dimensions (social, economic, physical and biological). Accordingly, one of the strategies proposed in the field of rural sustainability is the smart growth strategy, which is in the form of sustainable development theory. The smart growth approach, therefore, can provide a way out of instability and achieve sustainable development in rural areas. According to the mentioned issues in the study area, the use of futures studies approaches can provide the basis for improving smart growth in order to achieve sustainable development, especially in rural areas. Hence, the purpose of this study is to analyze the key drivers of the effect of smart growth approach on sustainable development of rural settlements with a future study approach. Therefore, the present study seeks to reply the following question: what are the key drivers of the effect of the smart growth approach on

the sustainable development of rural settlements in Jiroft County? To answer this question, using MicMac software, the key drivers of the effect of smart growth approach on sustainable development of rural settlements are identified and the results can help achieve sustainable development of rural settlements with a smart growth approach. Furthermore, reviewing studies show that no research has been carried out to identify the key drivers of the effect of the smart growth approach on the sustainable development of rural settlements in Jiroft County.

2. Research Theoretical Literature

The term smart growth was coined by Maryland Mayor, Paris Englanderning, from 1994 to 2002. It can be stated that the foundations of this theory in Canada and the United States are a reaction to the developments initiated in the early 1960s (Aaboud et al., 2019). In the mid-1990s, the term smart growth emerged in planning science and quickly became the key word. Whether the term is inherently different from growth management or is essentially just growth management under its attractive name is controversial; In fact, smart growth mentions to principles of development and operations planning in which creates land use pattern and transportation (Tregear & Cooper, 2016). Smart growth considers the redevelopment of developed areas. Indeed, proponents of smart growth would like to optimize existing facilities rather than creating new ones (ICMA, 2007; Brown et al., 2014; Ye et al. 2005). Accordingly, the term "smart growth" is widely applied to describe intensive development patterns that do not reflect the negative features of sporadic growth (Batisani, 2006). Based on this, smart growth approaches contribute to growth and development in rural areas and create a model for development in which supports multiple social goals, including public health goals.

In this regard, with the intensification of these unstable trends since the 1970s, widespread criticism and reactions were provoked against it, which resulted in the emergence and development of more sustainable approaches to physical-spatial development, including the smart growth approach. In fact, the smart growth approach has been proposed as a response to the undesirable features of sprawl (Chen et al., 2020). Accordingly, one of the most comprehensive definitions of the features of this approach is attributed to Anthony Downs, Head of the Brookings Institution Department of Economics, in which smart growth is defined with a quantitative approach including features such as: 1. Controlling peripheral and suburban development; 2. Reducing travelling by personal vehicles; 3. Endogenous development with emphasis on using abandoned spaces and recreating historical textures; 4. Planning mixed uses and activities in a various way; 5. Encouraging condensation and compact city; 6. Controlling green and open urban space (Naldi et al, 2015: 93). This institute emphasizes that the focus of development, relying on existing infrastructure reduces not only the need to use cars and, consequently, the consumption of fossil fuels, but also the cost of public services such as street construction, disposal system, sewage, water, electricity, gas and telephone supply. The consequences will be the revitalization of urban centers, higher productivity of employees and businesses, diversity of housing types, reduction of poverty, increased social security and improved sense of place (Coșciug et al., 2017). Thus, it should be noted that one of the important preconditions for achieving smart development is to taking the principles of regional planning and the features of the study place into consideration; which means that all regions (developed as well as underdeveloped), can move towards achieving smart development according to their potential and diverse capabilities (in terms of economic conditions, knowledge and innovation capacity) (McCann & Ortega -Argilés, 2015: 1291).

In this regard, the smart growth model introduces the components with which the corresponding developments can be identified. Most of these components are adapted from previous theories and solutions in this field. Indeed, the smart growth model is a package that consists of the following: intensive settlement (city and village) (sustainable development), tendency to public transportation (transportation planning), suitable design for walking and cycling (new urbanism and ruralism), protection of valuable natural and agricultural lands (environment), historical monuments, etc. (SGN, 2012: 9). In this framework, the smart growth model provides the basis for balancing the needs of individuals and sustainable development (Peiser, 2001: 277-278). It should, therefore, be noted that the use of smart growth policies and strategies for rural areas is important and consequently smart development seems vital in order to consider the principles of sustainable development in rural areas. The terms of smart growth and smart development are central to Europe's new 2020 growth strategy, which contains concepts such as "acting based on local capacities and capabilities in future policies" and "emphasizing regional benefits,

knowledge and innovation, infrastructure (European Commission, 2010; Barca et al., 2012; and Combes & Overman, 2004). Also, the smart village approach associated with smart growth and smart development includes a change in the villagers' main life style and subsequently leads to the sustainability of these areas (Somwanshi et al. 2016: 395) which flexibly suggests various ways to improve it (Holmes & Thomas, 2015: 151). Consequently, the development of smart villages leads to sustainable development in rural areas in the long run (Beg, 2018: 1) and can improve the quality of life and socio-economic well-being (Beg, 2018: 2; Singh & Patel, 2018).

After an overview of the concept of smart growth as the basis for formulating the concept of sustainable rural development, several related studies in this field are in the following:

Norouzi (2021) believes that the most important indicators of a smart village are in terms of agriculture, industry, services, education, health, etc. and the best conditions in the studied village (Avargan) for the development of a smart village is in the economic dimension while the worst conditions is in the institutional dimension. Babaei et al. (2021) suggest that there are no appropriate conditions for smart growth in the villages of Nazloo-Urmia county and most of the villages are far worse in terms of ecological indicators rather than other indicators. Roknoddin Eftekhari et al. (2020) believe that although the suburban villages of Tehran are greatly affected by the growth and expansion of cities and relations with them, this effect is more manifested in the form of population growth and physical expansion of rural settlements around cities and possess less signs of economic, social and ecological development in the context of sustainable rural development. In addition, none of the villages are in a state of smart growth. Anabestani and Kalateh Mimari (2020) and Anabestani and Javanshiri (2017) have studied the effective indicators in the formation of smart rural development and have determined that economic and physical indicators have the greatest role in this regard. Nazmfar et al. (2019) think that smart growth is one of the main solutions to solve problems for future development; in such a way that smart growth as a long-term strategy has an effective role in organizing by considering all its various dimensions. McGuire et al. (2022) in Rural Northern Ireland (2012-2014) concluded that top-down rural poverty reduction policies should be conducted by local knowledge and the most successful intervention was to improve access to local services which was strongly dependent on a strong rural transportation support network. Souvik Roy, Dennis Joseph (2021) assume that the Indian smartphone application market is really booming and India ranks first in terms of downloads via Android. However, the functional influence of smartphones is still low in rural India compared to its urban part. Anabestani and Kalateh Mimari (2020) believe that people with higher education and their tendency to stay in rural areas and the establishment of cross-industrial activities such as tourism, food and cultural production are key effective drivers in the formation of rural smart development.

Kalinka et al. (2020) assume that the level of local planning (village or neighborhood) is a development challenge for spatial planners. To examine and determine a spatial planning approach based on local needs, we must identify indicators that can be applied for short-term and long-term analysis of special regions in coastal areas. Cowie et al. (2020) argue that the Fourth Industrial Revolution (IR4) is a term includes a wide range of technological advances that fundamentally changes society in the same way as digital technology did during previous industrial revolutions. It is stated that the debate over the Fourth Industrial Revolution (IR4) is concentrated on the urban core and rural areas are marginalized. It examines these technologies from a rural perspective and considers what effect, either positive or negative can have on rural areas. They showed that the effects of technology (IR4) in rural areas can be as significant as urban areas and seek to understand the aspects of technology (IR4) in rural areas and support the transition to a smart rural future.

Zavratnik et al. (2020), Aziiza & Susanto (2020), and Visvizi & Lytras (2019) proposed a new development-oriented approach to emphasize that sustainable life is not achieved through technological solutions alone, and one of the major problems in rural areas is limited access to technology and they assumed information and communication technology (ICT) as the main issue in any smart city and rural development plan. Atkočiūnienė & Vaznonienė (2019) revealed that emerging traditional and interested networks are supported by the advancement of digital and telecommunication technologies, the increasing use of bioenergy, and the ability to employ useful knowledge for local people and business development. They promote the strategic development of rural communities; Anabestani & Javanshiri (2018) show that the Creative Rural Economy Index has the greatest effect on the formation of rural smart development.

Reviewing previous sources and researches associated with smart villages and its effect on sustainable rural development, it is inferred that due to the nature of the problem and perceptions, most of these studies examine and analyze smart growth indicators and factors affecting it through various indicators (Socio-economic, physical and land use, environmental and access and communications, etc) and the most important factors affecting smart rural from the perspective of these researchers are the factors of access, infrastructure, transportation, communications, innovation, knowledge , etc. In this regard, the present study identifies the key drivers of the effect of smart growth approach on sustainable development of rural settlements in Jiroft County, by which addressing this issue in rural areas can be an effective step towards achieving sustainable rural development.

3. Research Methodology

3.1. Geographical Scope of the Research

Jiroft County with an area of 9513 square kilometers is located in the Sothern part of Kerman Province with the longitude of 57º44', the latitude of 28º41' and the average altitude of 690 meter. It is limited to Kerman County from the north, AnbarAbad and Faryab Counties from the south, Bam County from the east and Rabor and Orzuiyeh Counties from the west. The statistical population of this study in quantitative phase is all rural areas of Jiroft County. According to the statistics provided by the Statistics Center of Iran in 2016, Jiroft County has a population of 308,858 people and 92937 households in which 153,153 people with 46543 are urban households and 155698 people with 46392 households are settled in rural areas of the county. In this study, to select sample villages according to the number of villages in the county and with the assumption that smart growth infrastructure is possible in large villages, the experimental group 18 villages in Jiroft county of those over 1000 people was selected using cluster sampling (multi-stage) and the sample size of Cochran.

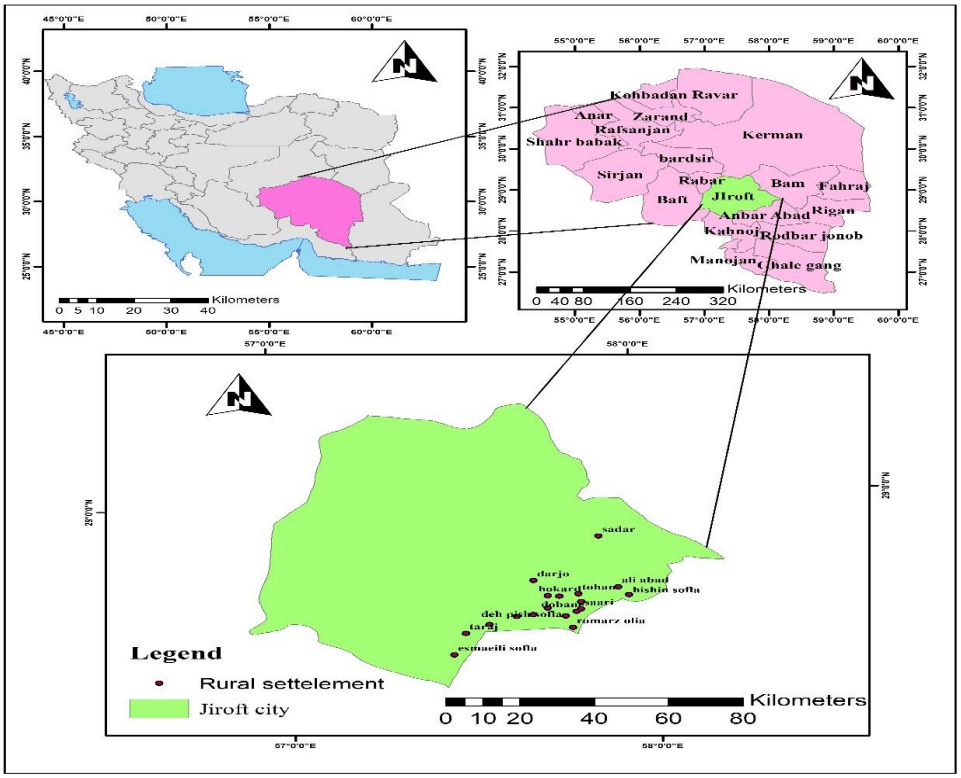

Figure 1. Location of the study area

Table 1. The features of the studied villages

District name	Names of Dehestan	Names of villages	Number of households	Number of populations
Jabalbarez	Rezvan	Heshin Sofla	391	1860
	Saghder	Saghder	463	1564
	Maskon	-	-	-
Central	Esfandagheh	Dolatabad	1387	4930
	Islam Abad	Doboneh	833	3217
		Deh-pish Sofla	398	1719
		Romorz Olia	406	1471
	Khatunabad	Hukerd	608	2016
		Golab Sofian Sofla	604	2316
	Dolat abad	Aliabad	2174	6170
		Saghari	681	2265
		Tohan	464	1606
	Halil	Narjo	405	1552
		Pushtler	450	1552
Esmaeili	Esmaeili	Ismaili Sofla	735	2355
	Hossein-Abad	Dehno Shahsavarkhan	381	1395
		Hossein Abad Dehdar	925	2886
		Konar Sandal	355	1536
	Ganj Abad	Terj	471	1874
Total	11	18	12131	42284

Source: Statistics Center of Iran, 2016 and research findings, 1400

3.2. Methodology

The present research is applied in terms of purpose and descriptive-analytical in terms of nature. Documentary and field methods have been applied to collect data. In expert-oriented methods, there is no precise formula or relationship for estimating sample size. In this type of method, the knowledge and expertise of experts are preferred rather than their quantity. Nevertheless, in futures studies and scenario building, the number of experts should generally not be less than 35 (Godet et al., 2008). The sample population of this study consists of 36 experts, specialists, university professors and executive authorities identified in rural areas. The validity and reliability of the data collection tool (questionnaire) were confirmed by professors and experts. In addition, benefiting from the theoretical foundations of the research and the opinion of experts guarantees the validity of the questionnaire. The data analysis as well as structural analysis of the effect of smart growth approach indicators on the sustainable development of rural settlements were conducted using MicMac software. First, the effect of indicators was ranged from 0 to four. Second, they were evaluated by experts and specialists using MicMac software. Then, the direct and indirect effects as well as indicators with direct and indirect potential effects and finally the most effective key indicators were identified.

Table 2. **Effective components and indicators of smart growth approach on sustainable development of rural settlements**

Components	Indicators
Economic	(1) reducing the economic costs of rural households, (2) utilizing existing infrastructure to increase villagers' employment and income, (3) supporting of economic development programs by the local community, (4) increasing innovation in economic activities (new marketing, etc.), (5) reducing the dependency ratio in rural households, (6) improving job opportunities and increasing job skills in rural areas, (7) moving rural communities towards self-reliance in production, (8) increasing investment in the process of innovative businesses (9) using local resources to strengthen the rural economy, (10) increasing the entrepreneurial spirit, starting and encouraging new local businesses, (11) reducing

Components	Indicators
	poverty among rural households, (12) improving savings capacity and increasing investment opportunities in rural areas, (13) improving land and housing prices in rural areas, (14) increasing the share of rural residents in the production of agricultural and non-agricultural products, (15) improving the income sources of villagers
Socio-cultural	(1) increasing the tendency of educated people to stay in the village, (2) improving the situation of civic associations and non-governmental organizations (Basij, wheat farmers, etc.), (3) villagers' satisfaction of well-being and happiness in the village (4) villagers' satisfaction of the social security in the village, (5) villagers' satisfaction of improving the quality of life in rural areas, (6) villagers' participation in decision-making for projects by local managers, (7) villagers' participation in the implementation process of projects by local managers, (8) villagers' participation in the process of operation and maintenance of projects by local managers, (9) villagers' trust to local managers and rural planners, (10) villagers' satisfaction of improved road communications, sidewalks and important path transportation of rural settlements, (11) improving the quality of access to services and amenities and infrastructural possibilities in the village, (12) villagers' satisfaction of access to public transport and its costs (taxi, bus, minibus, etc.) in the village, (13) villagers' satisfaction of increasing rural relations with outside (city and other villages), (14) villagers' satisfaction of expansion and development of information and communication technology (ICT) and increasing rural participation, (15) villagers' satisfaction of access to technology, initiative and innovation in rural areas, (16) villagers' satisfaction of smart payment systems for local taxes and expenses, (17) benefiting from technological solutions in order to achieve sustainable living.
Environmental	(1) improving the protection of agricultural lands and gardens of the village by the people and local managers, (2) preserving of historical and cultural monuments in the village, (3) protecting landscapes and natural ecosystems in the village, (4) encouraging redevelopment of natural and historical areas of the village and its surroundings, (5) managing optimal fuel and energy consumption in the village, (6) using clean and renewable energy in the village, (7) villagers' satisfaction of reducing environmental pollution in the village , (8) reducing and improving of waste production in rural settlements (9) creating livable areas in rural settlements, (10) developing abandoned lands of rural settlements, (11) improving forest and rangeland cover in the study area, (12) improving the protection of water and soil quality in the region.
Physical-spatial	(1) constructing and designing intensively in physical context integrating high density land uses in rural settlements, (2) developing dwelling units outside the approved area of the rural guide plan, (3) intensive activity (agricultural and non-agricultural) in rural settlements, (4) villagers' satisfaction of population density in the village, (5) supervising on constructions by rural manager to guide the physical development of the village, (6) villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns, (7) providing appropriate design of buildings to prevent energy waste in them, (8) attempting to reduce the distance between housing, work, education and meeting daily needs, (9) reconstructing and renovating textures in old areas (recreating) of rural settlements, (10) paying attention to hybrid (mixed) uses and developing access to services at the settlement level, (11) paying attention to the endogenous (infill) development process and choosing the appropriate development position in the rural settlement, (12) improving the quality of accesses (on foot and by vehicle) at the settlement level, (13) villagers' satisfaction of the visual quality of public spaces (exterior construction, network of passages and their elements) in the village

4. Research findings

The descriptive findings of the study show that out of the total number of respondents to the questionnaires, 11 (35.5) are male and 20 (64.5) are female, and, 5 (16.1) are bachelor. 6 (19.4) have a master's degree and 20 (64.5) have a doctorate. Using field and library studies, the most important factors affecting the smart growth approach on the sustainable development of rural settlements were identified. Then, employing the structural equation model (MicMac), the degree of affected or affecting of the identified factors was determined (Table 3). According to the dimensions of economic, socio-cultural, environmental and

physical-spatial matrix, their filling degree is between 91 to 94%, which indicates that the selected factors have a relatively large effect on each other. Out of the 769 relationships that can be evaluated in these matrices, 58 have zero number, which means that the factors did not affect or were not affected by one another. 197 relationships were number one, meaning they had little effect on each other, 386 relationships were number two, indicating they had a relatively strong effective relationship, and 186 were number three, illustrating key factor relationships were very high and they have had high affected and affecting levels. Finally, there was no relationship with the value of p, which indicates the potential and indirect relationships of the factors (Table 3).

4.1. Economic drivers of the effect of smart growth approach on sustainable development of rural settlements

As can be seen, the direct effects and indirect effects of in the output scatter plot in Figure (2), the most distributed and scattered indicators are the effective variables.

Table 3. Analysis of matrix data and cross-effects

Matrix information	Amount (economic)	Amount (socio-cultural)	Amount (environmental)	Amount (physical-spatial)
Matrix dimensions	15	17	12	13
The number of repetitions	2	2	2	2
Number zero	16	17	12	13
Number one	50	56	21	70
Number two	108	142	71	65
Number three	51	74	40	21
Number P	0	0	0	0
Total	209	272	132	156
Degree of filling	92.88889%	94.11765%	91.66666%	92.30769%

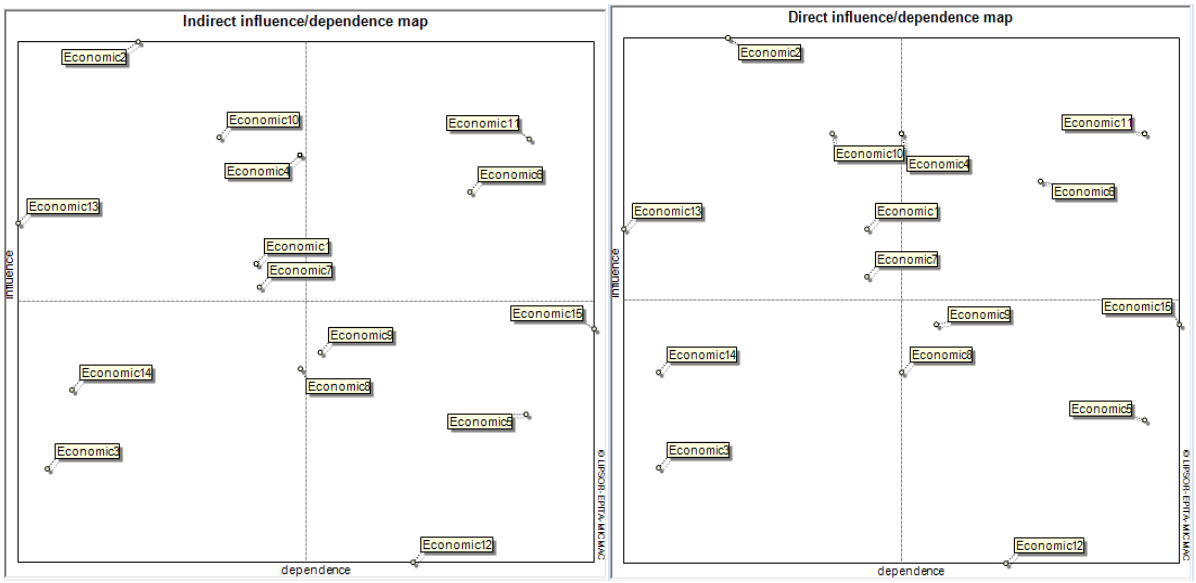

Figure 2. Map of the status of direct (a: right side) and indirect (b: left side) effects of economic factors affecting the smart growth approach on sustainable development

Table 4. Status analysis of the effect of economic factors of smart growth approach on sustainable development of rural settlements

Variable type	Relevant indicators
Effective variables	Reducing the economic costs of rural households (1), increasing the entrepreneurial spirit, starting and encouraging new local businesses (10), utilizing existing infrastructure to increase villagers' employment and income (2), improving land and housing prices in rural areas (13)
Impressive variables	Improving the income sources of villagers (15), improving savings capacity and increasing investment opportunities in rural areas (12), reducing the dependency ratio in rural households (5)
Independent variables (discrete)	Supporting of economic development programs by the local community (3)
Independent variables (secondary leverage)	Increasing the share of rural residents in the production of agricultural and non-agricultural products (14)
Independent variables (regulatory)	Moving rural communities towards self-reliance in production (7), increasing investment in the process of innovative businesses (8), using local resources to strengthen the rural economy (9)
Bidirectional variables (risk)	Increasing innovation in economic activities (new marketing, etc.) (4)
Bidirectional variables (objective)	Improving job opportunities and increasing job skills in rural areas (6), reducing poverty among rural households (11)

In this regard, according to Figure 3 (a) on the right side among the 15 variables investigated as indicators of economic factors, utilizing existing infrastructure to increase villagers' employment and income (33), increasing innovation in economic activities (new marketing, etc.) (31), increasing the entrepreneurial spirit, starting and encouraging new local businesses (31), reducing poverty among rural households (31) respectively calculated the highest column value and had the highest effect rather than other variables.

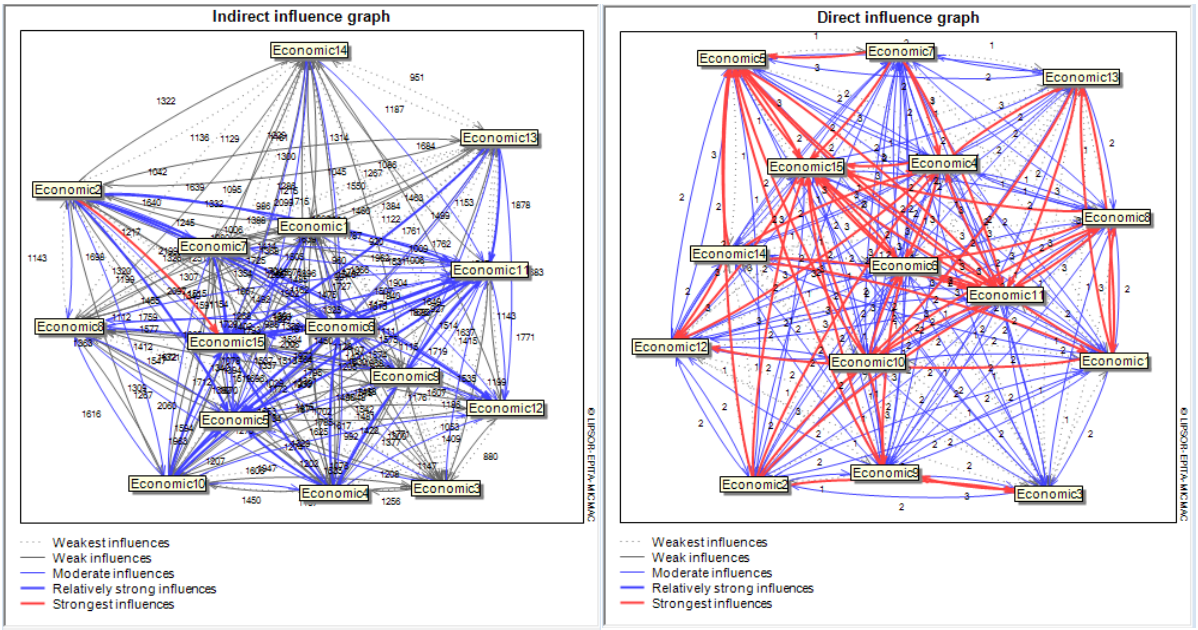

Figure 3. Map of direct (a: right side) and indirect (b: left side) relationships between economic variables of smart rural growth

In other words, the most important feature of these variables is low affected and high affecting level. In indirect effect of variables on each other, the software computed the variables' exponent of 2, 3, 4, 5 and consequently the relevant effects are calculated, among which the variables of improving the income sources of villagers (28054), reducing poverty among rural households (26672), reducing the dependency ratio in rural households (26605), improving job opportunities and

increasing job skills in rural areas (25406), improving savings capacity and increasing investment opportunities in rural areas (24195), using local resources to strengthen the rural economy (22219), increasing investment in the process of innovative businesses (21797), increasing innovation in economic activities (new marketing, etc.) (21787), had the highest column value and were most affected by the other variables (Figure 3b left side).

According to the direct and indirect effect matrix in Figure (4), it can be noted that indicators of utilizing existing infrastructure to increase villagers' employment and income, increasing innovation in economic activities (new marketing, etc.), increasing the entrepreneurial spirit, starting and encouraging new local businesses ranked first to third in terms of direct effect, respectively, had the largest share associated with the issue of rural smart growth. In the right side of Figure (4), the variables of utilizing existing infrastructure to increase villagers' employment and income, increasing the entrepreneurial spirit, starting and encouraging new local businesses, reducing poverty among rural households are ranked first to third, respectively, in terms of indirect effect.

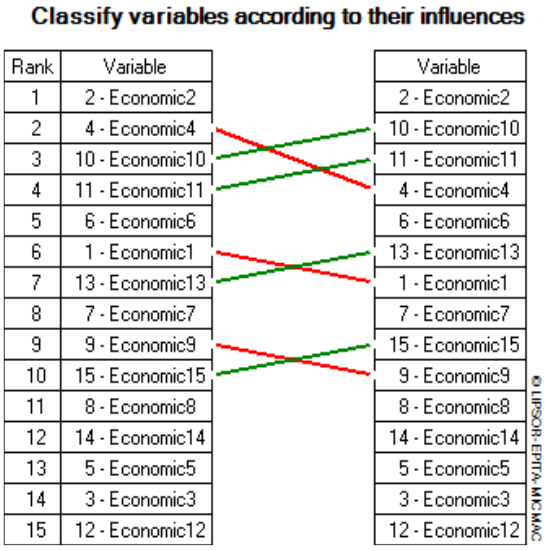

Figure 4. Classification of economic variables based on the degree of direct (left side) and indirect (right side) effect

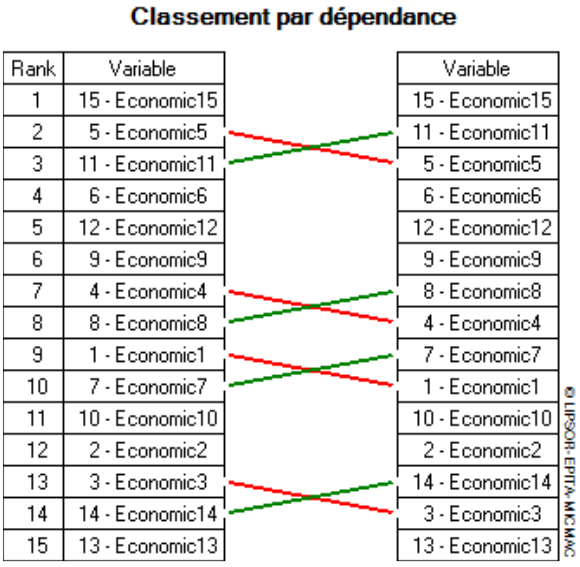

Figure 5. Classification of economic variables based on the degree of direct (left side) and indirect (right side) dependency

According to direct and indirect dependency matrix in Figure (5), it can be noted that improving the income sources of villagers, reducing the dependency ratio in rural households, reducing poverty among rural households are ranked first to third in direct dependency, respectively, and had the largest share related to the issue of rural smart growth. In the right side of Figure (5), the variables of improving the income sources of villagers, reducing poverty among rural households, reducing the dependency ratio in rural households are ranked first to third in indirect dependency, respectively.

2.4. Socio-cultural drivers of the effect of smart growth approach on sustainable development of rural settlements

As illustrated, the direct effects and indirect effects in the output scatter plot in Figure (6), the most distributed and scattered indicators are the dichotomous and independent variables.

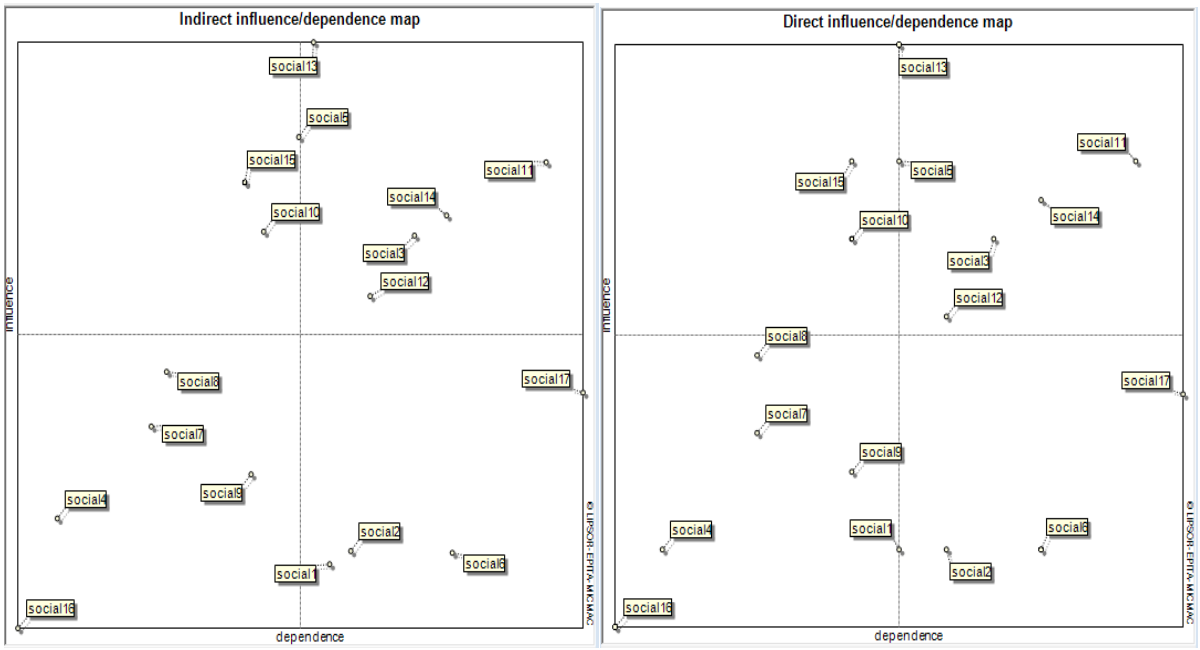

Figure 6. Map of the status of direct (a: right side) and indirect (b: left side) effects of Socio-cultural factors affecting the smart growth approach on sustainable development

Table 5. Status analysis of the effect of Socio-cultural factors of smart growth approach on sustainable development of rural settlements

Variable type	Relevant indicators
Effective variables	Villagers' satisfaction of access to technology, initiative and innovation in rural areas (15), villagers' satisfaction of improved road communications, sidewalks and important path transportation of rural settlements (10)
Impressive variables	Increasing the tendency of educated people to stay in the village (1), improving the situation of civic associations and non-governmental organizations (Basij, wheat farmers, etc.) (2), villagers' participation in decision-making for projects by local managers (6), benefiting from technological solutions in order to achieve sustainable living (17)
Independent variables (discrete)	Villagers' satisfaction of the social security in the village (4), villagers' satisfaction of smart payment systems for local taxes and expenses (16)
Independent variables (secondary leverage)	Villagers' participation in the implementation process of projects by local managers (7), villagers' participation in the process of operation and maintenance of projects by local managers (8), villagers' trust to local managers and rural planners (9)
Independent variables (regulatory)	Villagers' satisfaction of access to public transport and its costs (taxi, bus, minibus, etc.) in the village (12)
Bidirectional variables (risk)	Villagers' satisfaction of increasing rural relations with outside (city and other villages) (13), villagers' satisfaction of improving the quality of life in rural areas (5)
Bidirectional variables (objective)	Villagers' satisfaction of expansion and development of information and communication technology (ICT) and increasing rural participation (14), villagers' satisfaction of well-being and happiness in the village (3), improving the quality of access to services and amenities and infrastructural possibilities in the village (11)

In this regard, according to Figure 7 (a) on the right side among the 17 variables of socio-cultural factors, villagers' satisfaction of increasing rural relations with outside (city and other villages) (41), villagers' satisfaction of improving the quality of life in rural areas (38), improving the quality of access to services and amenities and infrastructural possibilities in the village (38), villagers' satisfaction of access to technology, initiative and innovation in rural areas (38), villagers' satisfaction

of expansion and development of information and communication technology (ICT) and increasing rural participation (37), villagers' satisfaction of improved road communications, sidewalks and important path transportation of rural settlements (36), villagers' satisfaction of access to public transport and its costs (taxi, bus, minibus, etc.) in the village (34), villagers' participation in the process of operation and maintenance of projects by local managers (33) respectively calculated the highest column value and had the highest effect rather than other variables. In other words, the most significant feature of these variables is low affected and high affecting level. In indirect effect of variables on each other, the software computed the variables' exponent of 2, 3, 4, 5 and consequently the relevant effects are calculated. The variables of benefiting from technological solutions in order to achieve sustainable living (42257), improving the quality of access to services and amenities and infrastructural possibilities in the village (41475), villagers' participation in decision-making for projects by local managers (39484), villagers' satisfaction of expansion and development of information and communication technology (ICT) and increasing rural participation (39362) had the highest calculated column value, respectively, and had the highest effect on other variables (Figure 7b left side).

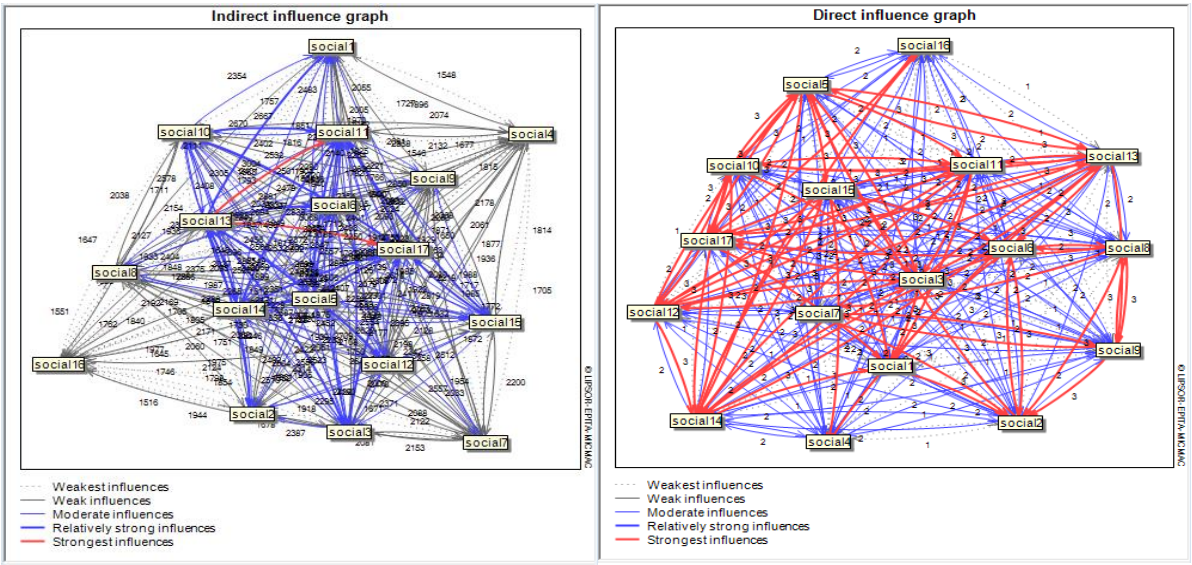

Figure 7. Map of direct (a right) and indirect (b left) relationships between Socio-cultural variables of smart rural growth

According to the direct and indirect effect matrix in Figure (8), it can be noted that indicators of villagers' satisfaction of increasing rural relations with outside (city and other villages), villagers' satisfaction of improving the quality of life in rural areas, improving the quality of access to services and amenities and infrastructural possibilities in the village ranked first to third in terms of direct effect, respectively, which had the largest share related to the issue of rural smart growth. In the right side of Figure (8), the variables of villagers' satisfaction of increasing rural relations with outside (city and other villages), villagers' satisfaction of improving the quality of life in rural areas, improving the quality of access to services and amenities and infrastructural possibilities in the village are ranked first to third, respectively, in terms of indirect effect. According to direct and indirect dependency matrix in Figure (9), it can be concluded that benefiting from technological solutions in order to achieve sustainable living, improving the quality of access to services and amenities and infrastructural possibilities in the village, villagers' participation in decision-making for projects by local managers are ranked first to third in direct dependency, respectively, and had the largest share associated with the issue of rural smart growth. In the right side of Figure (9), the variables of benefiting from technological solutions in order to achieve sustainable living, improving the quality of access to services and amenities and infrastructural possibilities in the village, villagers'

participation in decision-making for projects by local managers are ranked first to third in indirect dependency, respectively.

4.3. Environmental drivers of the effect of smart growth approach on sustainable development of rural settlements

The direct effects and indirect effects of in the output scatter plot in Figure (10) depicted that the most distributed and scattered indicators are the effective variables.

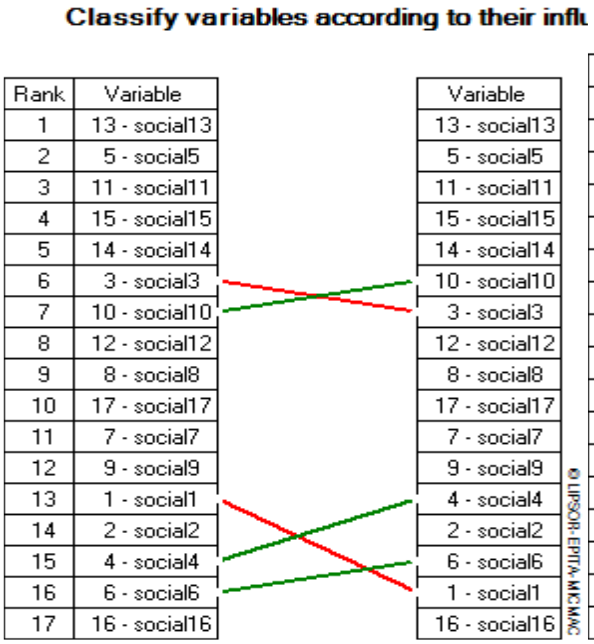

Figure 8. Classification of socio-cultural variables based on the degree of direct (left side) and indirect (right side) effect

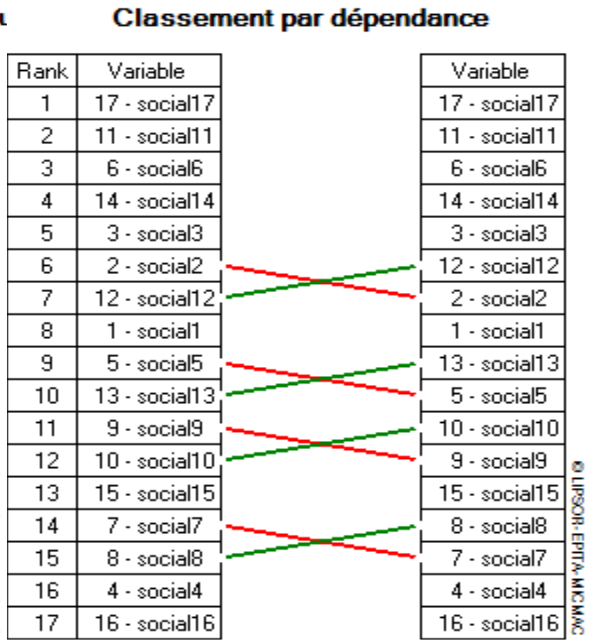

Figure 9. Classification of socio-cultural variables based on the degree of direct (left side) and indirect (right side) dependency

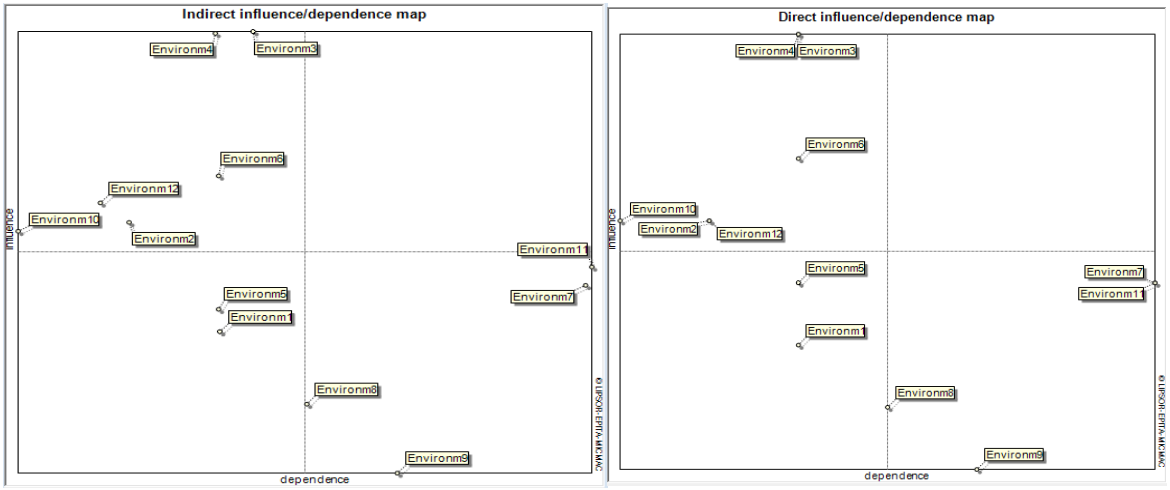

Figure 10. Map of the status of direct (a: right side) and indirect (b: left side) effects of environmental factors affecting the smart growth approach on sustainable development

Table 6. Status analysis of the effect of environmental factors of smart growth approach on sustainable development of rural settlements

Variable type	Relevant indicators
Effective variables	Encouraging redevelopment of natural and historical areas of the village and its surroundings (4), protecting landscapes and natural ecosystems in the village (3), developing abandoned lands of rural settlements (10), preserving of historical and cultural monuments in the village (2), using clean and renewable energy in the village (6), improving the protection of water and soil quality in the region (12)
Impressive variables	Reducing and improving of waste production in rural settlements (8), villagers' satisfaction of reducing environmental pollution in the village (7), improving forest and rangeland cover in the study area (11), creating livable areas in rural settlement s(9)
Independent variables (discrete)	-
Independent variables (secondary leverage)	Improving the protection of agricultural lands and gardens of the village by the people and local managers (1)
Independent variables (regulatory)	Managing optimal fuel and energy consumption in the village (5)
Bidirectional variables (risk)	-
Bidirectional variables (objective)	-

Based on Figure 11 (a) on the right side among the 12 variables studied as indicators of environmental factors, encouraging redevelopment of natural and historical areas of the village and its surroundings (27), protecting landscapes and natural ecosystems in the village (27), using clean and renewable energy in the village (25), preserving of historical and cultural monuments in the village (24), developing abandoned lands of rural settlements (24), improving the protection of water and soil quality in the region (24) respectively calculated the highest column value and had the highest effect rather than other variables. In other words, the most noticeable feature of these variables is low affected and high affecting level.

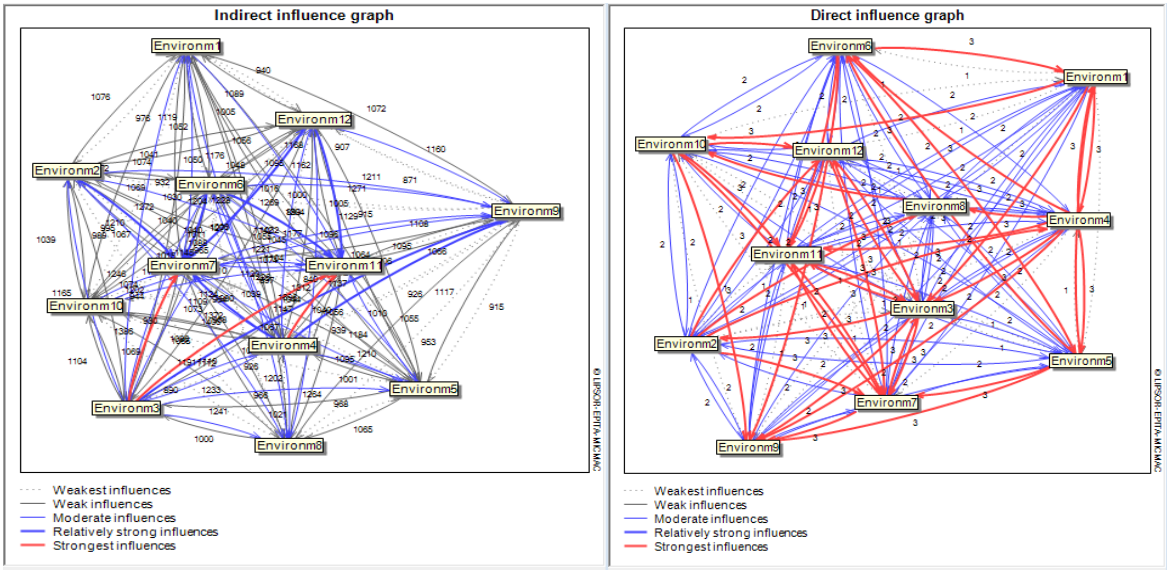

Figure 11. Map of direct (a: right side) and indirect (b: left side) relationships between environmental variables of smart rural growth

In indirect effect of variables on each other, the software computed the variables' exponent of 2, 3, 4, 5 and consequently the relevant effects are calculated. The variables of improving forest and rangeland cover in the study area (14811), villagers' satisfaction of reducing environmental pollution in the village (14777), creating livable areas in rural settlements (13748), reducing and improving of waste production in rural settlements (13254) had the highest column value and were most affected by the other variables (Figure 11b left side).

According to the direct and indirect effect matrix in Figure (12), it can be noted that indicators of protecting landscapes and natural ecosystems in the village, encouraging redevelopment of natural and historical areas of the village and its surroundings, using clean and renewable energy in the village ranked first to third in terms of direct effect, respectively, and had the largest share related to the issue of rural smart growth. In the right side of Figure (12), the variables of protecting landscapes and natural ecosystems in the village, encouraging redevelopment of natural and historical areas of the village and its surroundings, using clean and renewable energy in the village are ranked first to third, respectively, in terms of indirect effect. Based on direct and indirect dependency matrix in Figure (13), villagers' satisfaction of reducing environmental pollution in the village, improving forest and rangeland cover in the study area, creating livable areas in rural settlements are ranked first to third in direct dependency, respectively, and had the largest share in terms of the issue of rural smart growth. In the right side of Figure (13), the variables of improving forest and rangeland cover in the study area, villagers' satisfaction of reducing environmental pollution in the village, creating livable areas in rural settlements are ranked first to third in indirect dependency, respectively.

4.4. Physical-spatial drivers of the effect of smart growth approach on sustainable development of rural settlements

The direct effects and indirect effects in the output scatter plot in Figure (14) illustrated that the most distributed and scattered indicators are the effective variables.

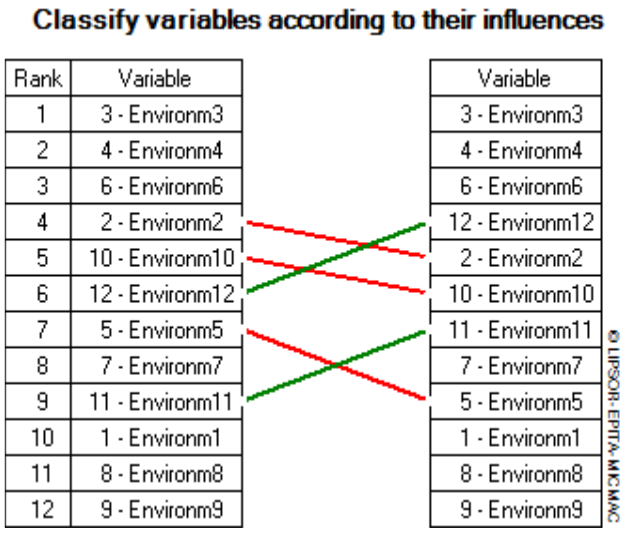

Figure 12. Classification of environmental variables based on the degree of direct (left side) and indirect (right side) effect

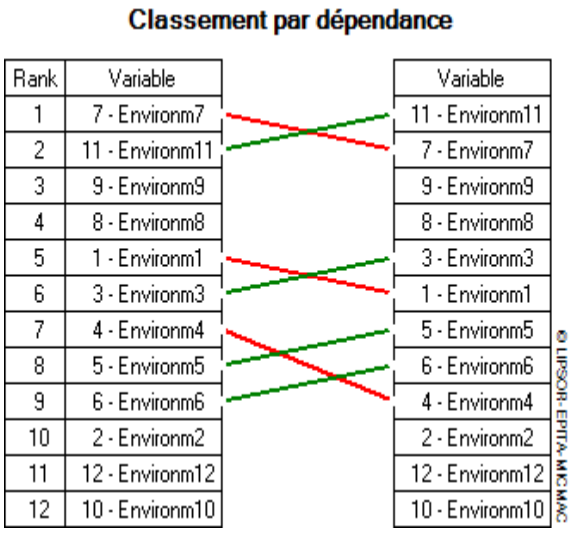

Figure 13. Classification of environmental variables based on the degree of direct (left side) and indirect (right side) dependency

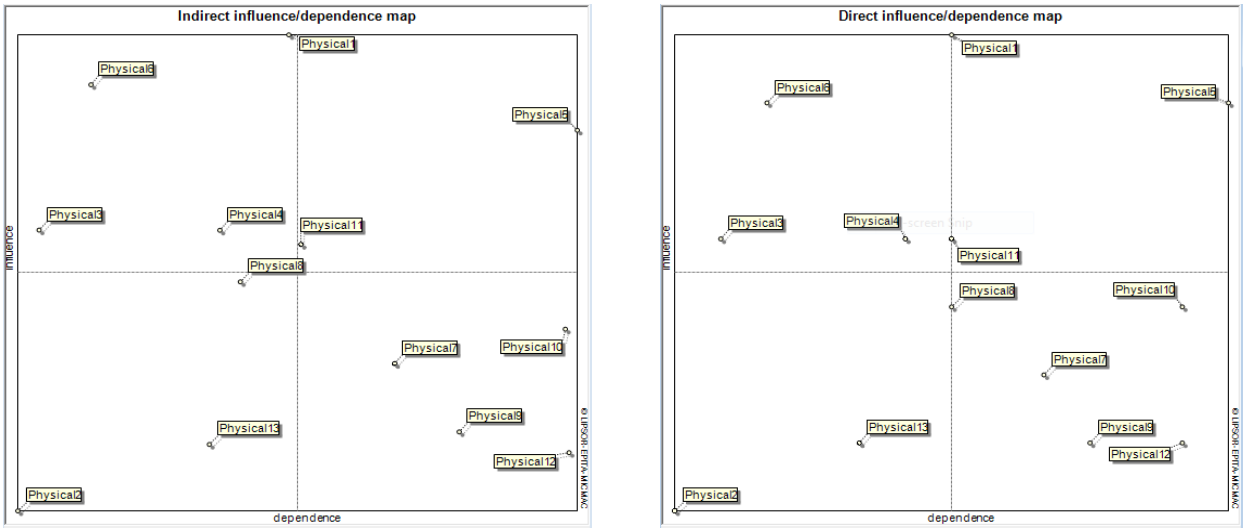

Figure 14. Map of the status of direct (a: right side) and indirect (b: left side) effects of physical-spatial **factors affecting the smart growth approach on sustainable development**

Table 7. Status analysis of the effect of physical-spatial **factors of smart growth approach on sustainable development of rural settlements**

Variable type	Relevant indicators
Effective variables	Villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns (6), intensive activity (agricultural and non-agricultural) in rural settlements (3)
Impressive variables	Providing appropriate design of buildings to prevent energy waste in them (7), reconstructing and renovating textures in old areas (recreating) of rural settlements (9), paying attention to hybrid (mixed) uses and developing access to services at the settlement level (10), improving the quality of accesses (on foot and by vehicle) at the settlement level (12)
Independent variables (discrete)	Developing dwelling units outside the approved area of the rural guide plan (2)
Independent variables (secondary leverage)	Villagers' satisfaction of the visual quality of public spaces (exterior construction, network of passages and their elements) in the village (13)
Independent variables (regulatory)	Villagers' satisfaction of population density in the village (4), attempting to reduce the distance between housing, work, education and meeting daily needs (8), paying attention to the endogenous (infill) development process and choosing the appropriate development position in the rural settlement (11)
Bidirectional variables (risk)	Constructing and designing intensively in physical context integrating high density land uses in rural settlements (1)
Bidirectional variables (objective)	Supervising on constructions by rural manager to guide the physical development of the village (5)

According to Figure 15 (a) on the right side among the 13 variables investigated as indicators of physical-spatial factors, the variables of constructing and designing intensively in physical context integrating high density land uses in rural settlements (24), supervising on constructions by rural manager to guide the physical development of the village (23), villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns (23) respectively calculated the highest column value and had the highest effect rather than other variables. In fact, the most notable feature of these variables is low affected and high affecting level. In indirect effect of variables on each other, the software computed the variables' exponent of 2, 3, 4, 5 and consequently the relevant effects are calculated. The variables of supervising on constructions by rural manager to guide the physical development of the village (10391), improving the quality of accesses (on foot and by vehicle) at the settlement level (10327), paying

attention to hybrid (mixed) uses and developing access to services at the settlement level (10298) had the highest column value and were most affected by the other variables (Figure 15b left side).

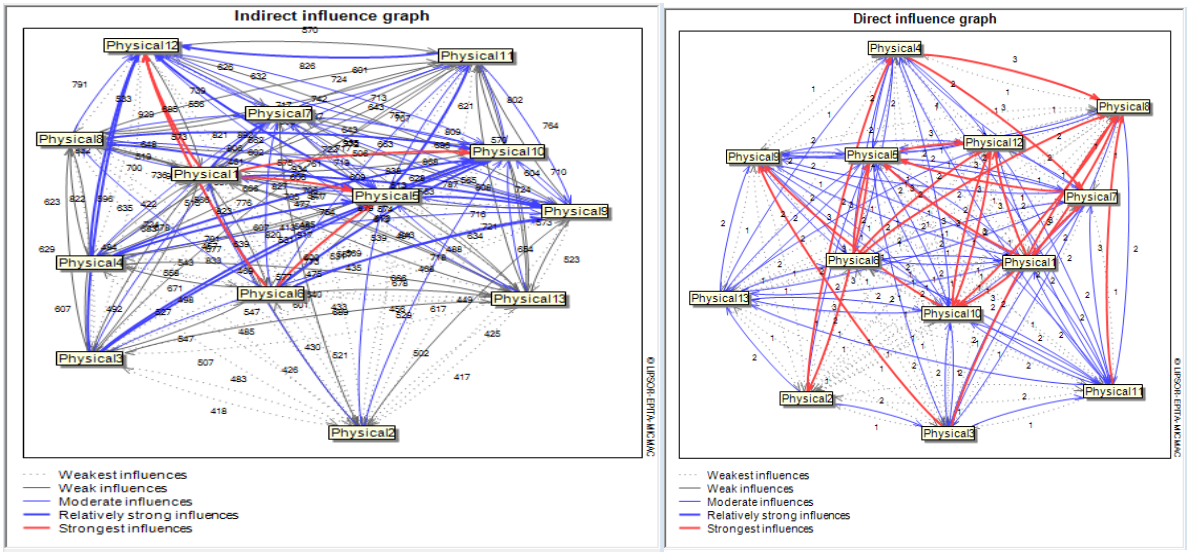

Figure 15. Map of direct (a: right side) and indirect (b: left side) relationships between physical-spatial variables of smart rural growth

According to the direct and indirect effect matrix in Figure (16), it can be noted that indicators of constructing and designing intensively in physical context integrating high density land uses in rural settlements, supervising on constructions by rural manager to guide the physical development of the village, villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns ranked first to third in terms of direct effect, respectively, and had the largest share related to the issue of rural smart growth.

Classify variables according to their influences

Rank	Variable	Variable
1	1 - Physical1	1 - Physical1
2	5 - Physical5	6 - Physical6
3	6 - Physical6	5 - Physical5
4	3 - Physical3	3 - Physical3
5	4 - Physical4	4 - Physical4
6	11 - Physical11	11 - Physical11
7	8 - Physical8	8 - Physical8
8	10 - Physical10	10 - Physical10
9	7 - Physical7	7 - Physical7
10	9 - Physical9	9 - Physical9
11	12 - Physical12	13 - Physical13
12	13 - Physical13	12 - Physical12
13	2 - Physical2	2 - Physical2

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Figure 16. Classification of physical-spatial variables based on the degree of direct (left side) and indirect (right side) effect

Classement par dépendance

Rank	Variable	Variable
1	5 - Physical5	5 - Physical5
2	10 - Physical10	12 - Physical12
3	12 - Physical12	10 - Physical10
4	9 - Physical9	9 - Physical9
5	7 - Physical7	7 - Physical7
6	1 - Physical1	11 - Physical11
7	8 - Physical8	1 - Physical1
8	11 - Physical11	8 - Physical8
9	4 - Physical4	4 - Physical4
10	13 - Physical13	13 - Physical13
11	6 - Physical6	6 - Physical6
12	3 - Physical3	3 - Physical3
13	2 - Physical2	2 - Physical2

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Figure 17. Classification of physical-spatial variables based on the degree of direct (left side) and indirect (right side) dependency

Based on direct and indirect dependency matrix in Figure (17), supervising on constructions by rural manager to guide the physical development of the village, paying attention to hybrid (mixed) uses and developing access to services at the settlement level, paying attention to the endogenous (infill) development process and choosing the appropriate development position in the rural settlement, respectively, and had the largest share in terms of the issue of rural smart growth.

5. Discussion and Conclusion

Identifying and analyzing the key drivers of the effect of the smart growth approach as a tool for sustainable rural development has been studied. If the key drivers of smart growth are considered as an infrastructure for sustainable rural development, it can reduce the negative effects associated with this issue. In addition, the necessary and executive planning to increase and improve the key drivers of smart growth can contribute to the process of sustainable rural development. In fact, this study has been conducted with the aim of identifying the key drivers of the smart growth approach on the sustainable development of rural settlements in Jiroft County. To achieve it, first 36 experts, specialists, university professors and executive authorities were selected as a sample to participate in this research, and in the next stage, using the Delphi method and a questionnaire the most important key drivers of the effect of smart growth approach on sustainable development of rural settlements in Jiroft County were identified and scored. a Total of 57 indicators in 4 categories of economic, socio-cultural, environmental and physical-spatial factors formed cross-matrix and in the next stage using MicMac software, the obtained weights were applied and the intensity of direct and indirect effect of variables and finally 14 key drivers were recognized as the most important future drivers of smart growth on the sustainable development of rural settlements in Jiroft County.

Ultimately, the key drivers affecting the formation of smart rural growth are extracted and presented in Table (8). The drivers included utilizing existing infrastructure to increase villagers' employment and income with a net effect of (+10), improving land and housing prices in rural areas with a net effect of (+9), villagers' satisfaction of increasing rural relations with outside (city and other villages) (+8), villagers' satisfaction of access to technology, initiative and innovation in rural areas with a net effect of (+6), encouraging redevelopment of natural and historical areas of the village and its surroundings with a net effect of (+4), villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns with a net effect of (+7), intensive activity (agricultural and Non-agricultural) in rural settlements with a net effect of (+6).

Table 8. Final Key drivers for forming smart rural growth based on structural analysis model

Row	Predators	Net direct impact	Net indirect effect
1	Utilizing existing infrastructure to increase villagers' employment and income	+10	+7205
2	improving land and housing prices in rural areas	+9	+6959
3	increasing the entrepreneurial spirit, starting and encouraging new local businesses	+5	+4004
4	increasing innovation in economic activities (new marketing, etc.)	+3	+2005
5	villagers' satisfaction of increasing rural relations with outside (city and other villages)	+8	+8356
6	villagers' satisfaction of access to technology, initiative and innovation in rural areas	+6	+5990
7	villagers' satisfaction of improving the quality of life in rural areas	+5	+6084
8	villagers' satisfaction of improved road communications, sidewalks and important path transportation of rural settlements	+4	+4248
9	encouraging redevelopment of natural and historical areas of the village and its surroundings	+4	+2002
10	protecting landscapes and natural ecosystems in the village	+4	+1809
11	developing abandoned lands of rural settlements	+3	+1510
12	villagers' satisfaction of housing construction for different tastes and special needs and the multiplicity of housing patterns	+7	+2793
13	intensive activity (agricultural and non-agricultural) in rural settlements	+6	+2398
14	constructing and designing intensively in physical context integrating high density land uses in rural settlements	+4	+1531

In this section, the findings of the study were compared with the results of other researchers. The findings of this study is consistent with the results of the study by Anabestani & Kalateh Mimari (2020) in which identified indicators of increasing people with higher education and their tendency toward staying in rural areas and establishing cross-industrial activities such as tourism, food and cultural production as key effective drivers on the formation of smart rural development in this regard. The results of the study by Zavratnik et al. (2020), Aziiza & Susanto (2020) and Visvizi & D. Lytras (2019) emphasize that sustainable life is not achieved only through technological solutions and the main problems of rural areas are limited access to technology. Consequently, they considered information and communication technology (ICT) as the main issue in any smart urban and rural development plan which is in line with the results of this study. It is also in agreement with the research by Elgar, Stefaniak, & Wohl, (2020) according to which smart growth indicators are effective in the process of sustainable development. Furthermore, it is consistent with Tregear & Cooper (2016) believing that smart growth can contribute to maintaining ecological, social, economic and physical sustainability by making rural settlements more livable, sustainable economic development, creating diverse and affordable housing options and therefore has significant benefits for rural communities. It is also in line with research by Tsimpo & Wodon (2018) that the combined use of smart growth indicators can lead to the benefits of financial and economic sustainability and thus help to receive more local taxes, recognizing the occupations and local benefits which may attract more people. The more people shop in an area, the more economic activity will be. Accordingly, smart growth offers options in the field of housing, transportation, occupations and welfare facilities (including social, cultural, recreational, educational services) and uses comprehensive planning to guide, design, develop, manage, revitalize and build communities. In general, this approach considers the relationship between development and quality of life. The features and ideas of smart growth in a community vary from place to place. In a general scenario, smart growth invests time and resources and provides new life for rural centers and worn-out old structures. Smart growth takes into account the redevelopment of developed areas. In fact, proponents of smart growth would like to optimize existing facilities rather than building new ones.

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Authors' contributions

The authors equally contributed to the preparation of this article.

Conflict of interest

The authors declare no conflict of interest.

References

1. Aaboud, M., Aad, G., Abbott, B., Abbott, D. C., Abeloos, B., Abhayasinghe, D. K., ... & Banas, E. (2019). Electron reconstruction and identification in the ATLAS experiment using the 2015 and 2016 LHC proton–proton collision data at $$\sqrt {s}= 13$$ s= 13$$\text {TeV} $$ TeV. *The European Physical Journal C*, *79*(8), 1-40. https://link.springer.com/article/10.1140/epjc/s10052-019-7140-6
2. Anabestani, A. & Javanshiri, M (2018). Factors Affecting the Formation of Smart Rural Development in Iran. *Journal of Rural Development*, *37*(1), 71-94. https://profdoc.um.ac.ir/paper-abstract-1061128.html
3. Anabestani, A., Javanshiri, M. (2017). The Survey and Analysis of Rural Smart Development Indicators (Case Study: Villages in Binaloud County). *Journal of Research and Rural Planning*, 5(4), 187-212. https://Doi.10.22067/jrrp.v5i4.61113
4. Anabestani, A., Kalateh Mimari, R. (2020). Spatial Analysis of Indicators Effective in the Formation of Rural Smart Development (Case Study: Jovein County). *Geography and Development*, 18(60), 1-20. [In Persian] https://doi.10.22111/gdij.2020.5638
5. Anabestani، A.، & Meymari، R. K. (2020). Analysis of Key Propellants Affecting the Formation of Smart Rural Development in Iran. *Journal of Rural and Community Development*, *15*(4), 120-150. https://gsma.lu.ac.ir/article-1-278-fa.html

6. Atkočiūnienė, V., & Vaznonienė, G. (2019). Smart village development principles and driving forces: the case of Lithuania. *European countryside. Warsaw: De Gruyter, 2019, 11*(4), 479-516. DOI:10.2478/euco-2019-0028
7. Aziiza, A. A., & Susanto, T. D. (2020). Information System Department Surabaya, Indonesia, pp: 1.
8. Babaie, N., Taghilou, A., & Movaghari, A. (2022). Smart villages, a strategy for sustainable development (Case study: Nazlou Dehestan of Urmia County). *Journal of Geographical Engineering of Land*, 5(9), 29-42. [In Persian] http://www.jget.ir/article_115577.html
9. Barca, F., McCann, P., & Rodríguez-Pose, A. (2012). The case for regional development intervention: place-based versus place-neutral approaches. *Journal of Regional Science*, 52(1), 134-152. https://doi.org/10.1111/j.1467-9787.2011.00756.x
10. Batisani, N. (2006). Sprawl dynamics and the development of effective smart growth policies. http://moodle.buan.ac.bw/handle/13049/360
11. Beg, M. D. (2018). Smart and Sustainable Rural Development. *Int J Recent Sci Res*, 9(1), 23427-23429.
12. Brown, L. J., Dixon, D., & Gillham, O. (2014). *Urban Design for an Urban Century, Placemaking for People*, (S. Bahrainy, Trans.). Tehran: University of Tehran (In Persian).
13. Caragliu, A., & Del Bo, C. (2018). Much ado about something? An appraisal of the relationship between smart city and smart specialisation policies. *Tijdschrift voor economische en sociale geografie*, 109(1), 129-143. https://doi.org/10.1111/tesg.12272
14. Chen, Z., Poon, K. T., DeWall, C. N., & Jiang, T. (2020). Life lacks meaning without acceptance: Ostracism triggers suicidal thoughts. *Journal of personality and social psychology*, *119*(6), 1423-1441. https://psycnet.apa.org/record/2020-15000-001
15. Combes, P. P., & Overman, H. G. (2004). The spatial distribution of economic activities in the European Union. *Handbook of Regional and Urban Economics*, 4, 2845-2909.
16. Coșciug, C., Timofti, E., & Timofti, Gh. (2017). Development trends and promotion methods of the rural tourism in the Republic of Moldova. https://repository.uaiasi.ro/xmlui/handle/20.500.12811/797
17. Cowie, P., Townsend, L., & Salemink, K. (2020). Smart rural futures: Will rural areas be left behind in the 4th industrial revolution? *Journal of rural studies*, *79*, 169-176. https://doi.org/10.1016/j.jrurstud.2020.08.042
18. European Commission, (2010a). Europe 2020: A European Strategy for Smart, Sustainable and Inclusive Growth. European Commission, Brussels
19. European Network for Rural Development. (2018). Smart Village European Network for Rural Development (Brussel: ENRD).
20. Galli, A., Iha, K., Pires, S. M., Mancini, M. S., Alves, A., Zokai, G., ... & Wackernagel, M. (2020). Assessing the ecological footprint and biocapacity of Portuguese cities: Critical results for environmental awareness and local management. *Cities*, *96*, 102442. https://doi.org/10.1016/j.cities.2019.102442
21. Ghorbani, R., & Novshad, S. (2008). Smart growth strategy in urban development. *Geography and Development*, 3(12), 1-16. [In Persian] https://gdij.usb.ac.ir/article_4886.html
22. Holmes, J., & Thomas, M. (2015). Introducing the Smart Villages Concept. *The International Journal on Green Growth and development*, 2(2), 151-154. https://bookstore.teri.res.in/docs/journals.pdf#page=84
23. Godet, M., Durance, Ph. & Gerber, A. (2008). *Strategic Foresight La Prospective Use and Misuse of Scenario Building*. LIPSOR Working Paper (#10), Paris
24. ICMA. (2007). Getting to Smart Growth: 100 Policies for Implementation. International City/County Management Association. www.Smartgrowth.Org
25. Kalinka, M., Geipele, S., Pudzis, E., Lazdins, A., Krutova, U., & Holms, J. (2020). Indicators for the smart development of villages and neighborhoods in Baltic Sea coastal areas. Sustainability, 12(13), 5293. https://doi.org/10.3390/su12135293
26. Litman, T. (2005). Evaluating Criticism of Smart Growth. Victoria Transport Policy Institute. (www.vtpi.org).
27. McCann, P., & Ortega-Argilés, R. (2015). Smart specialization, regional growth and applications to European Union cohesion policy. *Regional Studies*, 49(8), 1291-1302. https://www.tandfonline.com/doi/abs/10.1080/00343404.2013.799769

28. McGuire, R., Longo, A., & Sherry, E. (2022). Tackling poverty and social isolation using a smart rural development initiative. *Journal of Rural Studies*, *89*, 161-170. https://doi.org/10.1016/j.jrurstud.2021.11.010
29. Michaud, W. (2013). Financing Strategies to Overcome Barriers to Smart Growth in Rural Communities. *Smart* Growth Network: National Conversation on the Future of Our Communities.
30. Naldi, L., Nilsson, P., Westlund, H., & Wixe, S. (2015). What is smart rural development?. *Journal of rural studies*, *40*, 90-101. https://doi.org/10.1016/j.jrurstud.2015.06.006
31. Nazmfar, H., Askarzadeh, R., & Hamidi, S. (2019). Strategies and principles of smart growth in urban development. *The Second Conference on Civil Engineering, Architecture and Urban Planning of the Islamic World*, Tabriz. [In Persian] https://civilica.com/doc/1021129
32. Novrozi, A. (2021). Analysis of indicators and feasibility of smart village development 9Case study: Avargan village). *Journal of Geography*, 19(68). 21-40. [In Persian] https://rimag.ricest.ac.ir/ar/Article/9846
33. Peiser, R. (2001). Decomposing Urban Sprawl. *Town planning Review*, 72(3), 275-298. https://www.jstor.org/stable/40112455
34. Randhawa, A., & Kumar, A. (2017). Exploring sustainability of smart development initiatives in India. *International Journal of Sustainable Built Environment*, 6(2), 701-710. https://doi.org/10.1016/j.ijsbe.2017.08.002
35. Roknoddin Eftekhari, A, R., Pourtaheri, M., & Adinehvand, E. (2020). Assessing the level of intelligent growth pattern in rural areas of Tehran Province. *Journal of Spatial Planning*, 24(19), 103-126. [In Persian] https://hsmsp.modares.ac.ir/article-21-36108-fa.html
36. Roy, S., & Joseph, D. (2021). Sustainability of the Smart phone applications usage in rural India–An empirical study. *International Journal of Professional Business Review*, *6*(1), 216.
37. Singh, A., & Patel, M. (2018). Achieving Inclusive Development Through Smart Village. *PDPU Journal of Energy and Management*, 3(1), 37-43. https://pdpu.ac.in/downloads/SPM%20JEM%20Oct18-Editorial%20Chap4.pdf
38. Smart Growth Network (SGN). (2012). available at: www.smartgrowth.org access: 2014-6-22
39. Somwanshi, R., Shindepatil, U., Tule, D., Mankar, A., Ingle, N., Rajamanya, G. B. D. V., & Deshmukh, A. (2016). Study and development of village as a smart village. *International Journal of Scientific & Engineering Research*, *7*(6), 395-408. https://www.gtu.ac.in/VYojana/PDF/
40. Tibbs, H. (2011). Changing cultural values and the transition to sustainability. *Journal of Futures Studies*, *15*(3), 13-32. https://citeseerx.ist.psu.edu/documen=f8c92fa771b66a86178d33362c7771a8e97eef30
41. Tregear, A., & Cooper, S. (2016). Embeddedness, social capital and learning in rural areas: The case of producer cooperatives. *Journal of rural studies*, *44*, 101-110. https://doi.org/10.1016/j.jrurstud.2016.01.011
42. Tsimpo, C., & Wodon, Q. (Eds.). (2019). *Residential piped water in Uganda*. World Bank Publications.
43. Visvizi, A., & Lytras, M. D. (2020). Sustainable smart cities and smart villages research: Rethinking security, safety, well-being, and happiness. *Sustainability*, *12*(1), 215. https://www.mdpi.com/604258
44. Ye, L., Sumedha Mandpe, Meyer, B. P. (2005). What Is "Smart Growth?" Really?, *Journal of Planning Literature*, 19(3), 301-315. https://journals.sagepub.com/doi/pdf/10.1177/0885412204271668
45. Zavratnik, V., Kos, A., & Stojmenova Duh, E. (2018). Smart villages: Comprehensive review of initiatives and practices. *Sustainability*, *10*(7), 2559. https://www.mdpi.com/318404
46. Zavratnik, V., Podjed, D., Trilar, J., Hlebec, N., Kos, A., & Stojmenova Duh, E. (2020). Sustainable and community-centred development of smart cities and villages. *Sustainability*, *12*(10), 3961. https://www.mdpi.com/713980

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Original Article

تحلیل پیشران‌های کلیدی اثرگذاری رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه‌های روستایی ایران

علی‌اکبر عنابستانی[*1]- فرخ لقا بهادری امجز [2]- جمیله توکلی نیا [3]

۱- استاد جغرافیای انسانی و آمایش، دانشگاه شهید بهشتی، تهران، ایران.
۲- دانشجوی دکتری جغرافیا و برنامه ریزی روستایی، دانشگاه شهید بهشتی، تهران، ایران.
۳- دانشیار جغرافیای انسانی و آمایش ، دانشگاه شهید بهشتی، تهران، ایران.

چکیده مبسوط

۱.مقدمه

امروزه رهیافت رشد هوشمند نقش بسیار مهمی در توسعه پایدار روستایی دارد. این رویکرد تلاش می‌کند کیفیت زندگی انسان‌ها را ارتقاء دهد و درصدد پاسخگویی به مسائل و مشکلات اجتماعی-اقتصادی، زیست‌محیطی و کالبدی است و می‌تواند راهگشای مدیریت روستایی برای استفاده بهینه از امکانات و حل معضلات روستایی باشد. درواقع رهیافت رشد هوشمند می‌تواند مسیری را برای برون‌رفت از ناپایداری و رسیدن به توسعه پایدار را در نواحی روستایی فراهم نماید. بر این اساس، با توجه به مباحث یاد شده در منطقه مورد مطالعه بهره گیری از رویکردهای آینده پژوهی می تولند زمینه را جهت بهبود رشد هوشمند در راستای دستیابی به توسعه پایدار بویژه در نواحی روستایی فراهم کند. بر این اساس هدف مطالعه حاضر تحلیل پیشران‌های کلیدی اثرگذاری رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه‌های روستایی با رهیافت آینده‌پژوهی می باشد. لذا پژوهش حاضر در پی پاسخ گویی به این سوال است که پیشران‌های کلیدی اثرگذاری رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه‌های روستایی شهرستان جیرفت کدام اند؟

۲. مبانی نظری تحقیق

رشد هوشمند به اصولی از توسعه و عملیات برنامه ریزی اشاره دارد که الگوی کاربری زمین و حمل و نقل موثر را ایجاد کرده است. به گونه در واقع طرفداران رشد هوشمند پیش از آنکه درصدد ساختن تأسیسات جدید باشند خواهان بهینه کردن تاسیسات موجود هستند. بر این اساس اصطلاح "رشد هوشمند" به طور گسترده ای برای توصیف الگوهای فشرده توسعه که ویژگی های منفی رشد پراکنده را به تصویر نمی کشد، به کار گرفته می شود. بر این بنیان رویکردهای رشد هوشمند به رشد و توسعه در مناطق روستایی و ایجاد الگویی برای توسعه کمک می‌کند که اهداف اجتماعی چندگانه، از جمله اهداف سلامت عمومی را پشتیبانی می‌کند. با مرور منابع و تحقیقات پیشین مرتبط با هوشمندسازی روستاها و تاثیرگذاری آن برتوسعه پایدار روستایی این گونه استنباط می شود که با توجه به ماهیت مسئله و برداشتها، بیشتر این تحقیقات به بررسی و تحلیل شاخص های رشد هوشمند و عوامل موثر بر آن از طریق شاخص مختلف (اجتماعی- اقتصادی، کالبدی و کاربری اراضی، زیست‌محیطی و دسترسی و ارتباطات و...پرداخته اند. و مهمترین عوامل موثر در زمینه هوشمندسازی روستاها از دیدگاه این پژوهشگران عوامل دسترسی، زیرساخت ها، حمل و نقل، ارتباطات، نوآوری و دانش و.... می‌باشد.

۳. روش‌شناسی تحقیق

تحقیق حاضر بر اساس هدف از نوع کاربردی و بر اساس ماهیت، توصیفی- تحلیلی است. که برای جمع آوری اطلاعات از روش اسنادی و میدانی استفاده شده است. در روش‌های خبره‌محور، فرمول یا رابطهٔ دقیقی برای برآورد حجم نمونه وجود ندارد. در این نوع روش‌ها دانش

*. نویسندهٔ مسئول:
دکتر علی‌اکبر تقیلو
آدرس: گروه جغرافیای انسانی و آمایش، دانشکده علوم زمین، دانشگاه شهید بهشتی، تهران، ایران.
پست الکترونیکی: Email: a_anabestani@sbu.ac.ir

آینده‌پژوهی و سناریونگاری عموماً تعداد خبرگان نباید کمتر از ۳۵ نفر باشد. جامعه نمونه این پژوهش را ۳۶ نفر از کارشناسان، متخصصان و استادان دانشگاهی و مسئولان اجرایی شناسایی شده در حوزه روستایی تشکیل می دهند. اعتبار و روایی ابزار گردآوری اطلاعات(پرسش نامه) را استادان و خبرگان تایید کردند. برای تجزیه و تحلیل داده ها و تحلیل ساختاری تاثیرگذاری شاخص های رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه های روستایی از نرم افزار Micmac استفاده شد، که در ابتدا تاثیر متغیرها نسبت به یکدیگر از صفر تا چهار بر اساس طیف تعریف شد، در این نرم افزار و زیر نظر کارشناسان و متخصصان ارزش گذاری شد، سپس تاثیرات مستقیم و غیر مستقیم و همچنین شاخص‌های دارای پتانسیل اثرگذار و اثرپذیر مستقیم و غیرمستقیم و در نهایت تاثیرگذارترین شاخص های کلیدی شناسایی شده است.

۴. یافته‌های تحقیق

شناسایی و تحلیل پیشران های کلیدی اثرگذاری رهیافت رشد هوشمند به عنوان ابزاری برای توسعه پایدار روستایی مورد مطالعه قرار گرفته است. لذا در صورتی که پیشران های کلیدی رشد هوشمند به عنوان زیر ساختی برای توسعه پایدار روستایی در نظر گرفته شود، می‌تواند تأثیرات منفی مرتبط با این مقوله را کاهش دهد. همچنین با برنامه‌ریزی های لازم و اجرایی برای افزایش و بهبود پیشران های کلیدی رشد هوشمند می‌توان به فرآیند توسعه پایدار روستایی کمک کرد. در واقع این پژوهش با هدف شناسایی پیشران های کلیدی اثرگذار رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه های روستایی شهرستان جیرفت تدوین شده است. برای رسیدن به هدف مورد نظر، نخست تعداد ۳۶ نفر از کارشناسان، متخصصان و استادان دانشگاهی و مسئولان اجرایی به عنوان نمونه برای مشارکت در این پژوهش انتخاب شد و در مرحله بعد با روش دلفی و از طریق پرسشنامه به شناسایی و امتیاز دهی مهم ترین پیشران های پیشران های کلیدی اثرگذار رهیافت رشد هوشمند بر توسعه پایدار سکونتگاه های روستایی شهرستان جیرفت اقدام شد که در مجموع ۵۷ شاخص در ۴ دسته عوامل اقتصادی، اجتماعی- فرهنگی، محیطی و کالبدی- فضایی ماتریس های متقاطع را تشکیل دادند و در مرحله ی بعد با استفاده از نرم افزار میک مک وزن های بدست آمده اعمال و شدت تاثیرگذاری و تاثیرپذیری مستقیم و غیرمستقیم متغیرها و در نهایت ۱۴ پیشران کلیدی به عنوان مهم ترین پیشران های آتی تاثیرگذار رشد هوشمند بر توسعه پایدار سکونتگاه های روستایی شهرستان جیرفت شناخته شدند.

۵. بحث و نتیجه‌گیری

۱۴ پیشران‌های کلیدی تاثیرگذار بر شکل‌گیری رشد هوشمند روستایی عبارتند از بهره‌وری از زیرساختهای موجود در راستای افزایش اشتغال و درآمد روستاییان با مقدار اثرگذاری خالص(+۱۰)، بهبود قیمت اراضی و مسکن در سطح روستا با مقدار اثرگذاری خالص(+۹)، میزان رضایت‌مندی از افزایش روابط روستا با بیرون از آن (شهر و روستاهای دیگر) (+۸)، میزان رضایت از دسترسی به فناوری، ابتکار و نوآوری در محیط روستا با مقدار اثرگذاری خالص(+۶)، میزان تشویق به توسعه مجدد نواحی طبیعی و تاریخی روستا و پیرامون با مقدار اثرگذاری خالص(+۴)، رضایت‌مندی از ساخت مسکن برای سلایق مختلف و نیازهای خاص و تعدد الگوهای مسکن با مقدار اثرگذاری خالص(+۷)، میزان فعالیت فشرده(کشاورزی و غیرکشاورزی) سکونتگاه های روستایی با مقدار اثرگذاری خالص(+۶) . به طورکلی، این رویکرد ارتباط میان توسعه و کیفیت زندگی را مدنظر دارد. بنابراین، ویژگی‌ها و ایده‌های رشد هوشمند در یک جامعه از یک مکان به مکان دیگر متفاوت است. در یک سناریوی کلی رشد هوشمند زمان و منابع را سرمایه گذاری کرده و زندگی جدیدی برای مراکز روستایی و بافت های فرسوده و قدیمی فراهم می کند. رشد هوشمند توسعه مجدد نواحی توسعه یافته را مدنظر دارد، در واقع طرفداران رشد هوشمند پیش از آنکه درصدد ساختن تأسیسات جدید باشند خواهان بهینه کردن تاسیسات موجود هستند.

کلیدواژه‌ها: پیشرانها، رشد هوشمند، توسعه پایدار، سکونتگاه‌های روستایی، شهرستان جیرفت.

تشکر و قدرانی

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فهرست مندرجات

داوران این شماره به ترتیب حروف الفبا

دکتر مازیار آصفی (استاد معماری و شهرسازی دانشگاه هتر اسلامی تبریز)

دکتر نسیم ایزدی (استادیار ترویج و آمو زش کشاورزی دانشگاه یاسوج)

دکتر بهرام ایمانی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه محقق ادربیلی)

دکتر علی باقرزاده (دانشیار اقتصاد دانشگاه آزاد اسلامی واحد خوی)

دکتر جواد بذرافشان (دانشیار جغرافیا و برنامه‌ریزی روستایی دانشگاه سیستان و بلوچستان)

دکتر خدیجه بوزرجمهری (دانشیار جغرافیا و برنامه‌ریزی روستایی دانشگاه فردوسی مشهد)

دکتر حمیده بیگی (استادیار جغرافیا وبرنامهٔ ریزی شهری دانشگاه گیلان)

دکتر معصومه پازوکی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه پیام نور)

دکتر ندا ترابی فارسانی (دانشیار مدیریت گردشگری دانشگاه هنر اصفهان)

دکتر وحید ریاحی (دانشیارجغرافیا و برنامه‌ریزی روستایی دانشگاه خوارزمی)

دکتر علی شمس‌الدینی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه آزاد اسلامی واحد مرودشت)

دکتر علی‌اکبر عنابستانی (استاد جغرافیای انسانی و آمایش دانشگاه شهید بهشتی)

دکتر آنا فرمینو (استاد جغرافیا و برنامه‌ریزی منطقه‌ای دانشگاه لیسبون جدید پرتغال)

دکتر سیروس قنبری (دانشیار جغرافیا و برنامه‌ریزی روستایی دانشگاه سیستان و بلوچستان)

دکتر صدیقه کیانی سلمی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه کاشان)

دکتر علی گلی (دانشیار جغرافیا و برنامه‌ریزی روستایی دانشگاه شیراز)

دکتر حوریه مرادی (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه لرستان)

دکتر ولی‌الله نظری (استادیار جغرافیا و برنامه‌ریزی روستایی دانشگاه فرهنگیان)

۹. ۳. انواع نقل قول‌ها (مستقیم و غیر مستقیم)، نقل به مضمون و مطالب به دست آمده از منابع و مآخذ، با حروف نازک و استفاده از نشانه‌گذاری‌های مرسوم، مشخص شود و نام صاحبان آثار، تاریخ و شماره صفحات منابع و مآخذ، بلافاصله در میان پرانتز نوشته شود.

۱۰. مقالات برگرفته از رساله و پایان‌نامه دانشجویان با نام استاد راهنما، مشاوران و دانشجو به صورت توأمان و با مسؤولیت استاد راهنما منتشر می‌شود.

۱۱ . چنانچه مخارج تحقیق یا تهیه مقاله توسط مؤسسه‌ای تأمین مالی شده باشد، باید در بخش تشکر و قدردانی مشخص گردد.

۱۲ . شیوه ارزیابی مقالات: مقالات ارسالی که شرایط پذیرش را احراز کنند، برای داوران خبره در آن موضوع ارسال می‌شوند. داوران محترم، جدای از ارزشیابی کیفی مقالات، راهبردهای سازنده‌ای پیشنهاد می‌کنند. پیشنهادهای داوران محترم به طور کامل، اما بدون نام و نشان داور، برای نویسنده مقاله ارسال خواهد شد.

۱۳ . مجله حق رد یا قبول و نیز ویراستاری مقالات را برای خود محفوظ می‌دارد و مقالات مسترد نمی‌گردد. اصل مقالات رد یا انصراف داده شده پس از سه ماه از مجموعه آرشیو مجله خارج خواهد شد و مجله پژوهش و برنامه‌ریزی روستایی هیچ مسئولیتی در این ارتباط نخواهد داشت.

۱۴ . مسؤولیت ارائه صحیح مطالب مقاله بر عهده‌ی نویسندگان مقاله است. از این‌رو، نسخه‌ای از مقاله آماده چاپ برای انجام آخرین تصحیحات احتمالی به نشانی الکترونیکی نویسنده ارسال خواهد شد. چنانچه ظرف مدت یک هفته پاسخی از سوی نویسندگان واصل نگردید به معنای موافقت آنها با اصلاحات انجام شده تلقی و نسبت به چاپ آن اقدام می‌شود.

۱۵. دریافت مقاله صرفاً از طریق سامانه مجله (http://jrrp.um.ac.ir) خواهد بود و مجله از پذیرش مقالات دستی یا پستی معذور خواهد بود.

۱۶. نویسندگان گرامی، مقالاتی که مطابق فرمت مجله تهیه نشده باشند به نویسنده بازگردانده شده و در فرآیند ارزیابی قرار نخواهد گرفت.

۱۷. فایل های ضروری برای ارسال از طریق سامانه عبارتند از:

الف) فایل مشخصات نویسندگان: در محیط word شامل اسامی و مشخصات نویسندگان به فارسی و انگلیسی.

ب) فایل اصلی مقاله بدون مشخصات: در محیط word شامل متن اصلی مقاله بدون اسامی و مشخصات نویسندگان.

ج) فایل چکیده مبسوط (مکمل) مقاله: شامل چکیده مبسوط فارسی در قالب یک فایل در محیط Word.

۱۸. شرایط جزئی تر و دقیق تر نیز در فایل راهنمای نگارش و ارسال مقاله توسط نویسندگان ارائه شده است.

۱۹. مقاله پس از ارزیابی علمی به زبان انگلیسی برگردانده شده و نویسنده(گان) موظف به ترجمه آن در مراکز ویراستاری معتبر خواهند بود و تا قبل از انجام ترجمه، امکان ارسال گواهی پذیرش مقدور نمی‌باشد. لذا پیشنهاد می‌شود فارسی زبانان مقاله خود را به زبان فارسی تهیه و ارسال نموده و پس از طی فرایند ارزیابی علمی و پذیرش نسبت به ترجمه آن اقدام شود.

آدرس پستی: مشهد- میدان آزادی- پردیس دانشگاه فردوسی مشهد- دانشکده ادبیات و علوم انسانی- دفتر مجلهٔ پژوهش و برنامه‌ریزی روستایی.

کد پستی: ۹۱۷۷۹۴۸۸۸۳ تلفن و نمابر: ۳۸۷۹۶۸۴۰-۰۵۱ پست الکترونیکی Rplanning@um.ac.ir

وب سایت: http://jrrp.um.ac.ir/

فرم اشتراک (یک ساله/ دوشماره) **مجلهٔ پژوهش و برنامه‌ریزی روستایی**

این جانب ..... شغل ..... با ارسال فیش بانکی به مبلغ ..... ریال به حساب جاری شماره ۴۲۵۲۹۹۶۳۸ بانک تجارت شعبه دانشگاه مشهد کد ۴۲۵۰ به نام عواید اختصاصی دانشکده ادبیات و علوم انسانی، متقاضی اشتراک فصلنامه از شماره .....هستم. چنانچه صاحبان مقالات منتشر شده متقاضی دریافت مجلّه و تیراژه‌ی آن از طریق پست پیشتاز باشند، باید هزینه‌ی آن را به شماره حساب مذکور واریز و اصل فیش پرداختی را به نشانی دفتر مجلّه ارسال کنند.

نشانی: ..... کدپستی: .....

شرایط پذیرش مقاله

برای سرعت بخشیدن به امر داوری و چاپ مقالات، از همهٔ پژوهشگرانی که مایل به چاپ مقالات علمی خود در این نشریه هستند، درخواست می‌شود به نکات زیر توجه کافی داشته باشند:

۱ . مقالهٔ ارسال شده نباید قبلاً در هیچ نشریهٔ داخلی یا خارجی چاپ شده باشد. هیئت تحریریه انتظار دارد نویسندگان محترم تا هنگامی‌که جواب پذیرش از نشریه نرسیده است، مقالهٔ خود را به مجلهٔ دیگری برای چاپ ارسال نفرمایند.

۲ . مقالات انگلیسی با قلم نازک Times New Roman11 با نرم افزار Word تهیه شود. مقالات، روی کاغذ A4 (با حاشیه از بالا ۳ و پایین ۲ و راست ۲ و چپ ۲ سانتی‌متر) تایپ شود. متن به صورت دو ستونی با رعایت فاصله ۱ سانتی‌متر بین دو ستون و فواصل بین خطوط به صورت single باشد. ۳ . حجم مقاله نباید ازحدود ۹۵۰۰ کلمه و یا حداکثر ۱۵ صفحهٔ چاپی به قطع نشریه بیشتر باشد (با در نظر گرفتن محل جداول، اشکال، خلاصه فارسی و فهرست منابع).

۴ . عنوان مقاله با در نظرگرفتن فواصل بین کلمات نباید از ۶۰ حرف تجاوز کند و با قلم Times New Roman14 سیاه تایپ شود.

۵ . نام نویسندهٔ مقاله با قلم سیاه Times New Roman10 عنوان علمی یا شغلی او با قلم Times New Roman10 در زیر عنوان مقاله ذکر شود. ضمناً آدرس الکترونیکی و شماره تلفن نویسندهٔ مسؤول در پاورقی آورده شود.

۶ . چکیدهٔ مقاله ساختاریافته با قلم نازک Times New Roman 11 به صورت تک ستونی باشد.

۷ . شکل‌ها و نمودارهای مقاله حتماً اصل و دارای کیفیت مطلوب باشد. فایل اصلی اشکال (تحت PDF، Word، Excel) و با دقت ۳۰۰ dpi ارائه شود. اندازهٔ قلم‌ها خصوصاً در مورد منحنی‌ها (legend) به گونه‌ای انتخاب شوند که پس از کوچک‌شدن مقیاس شکل برای چاپ نیز خوانا باشند.

۸ . ساختار مقاله شامل عناصر زیر است:

۸. ۱ صفحهٔ عنوان: در صفحهٔ شناسنامه باید عنوان مقاله، نام و نام خانوادگی نویسنده (نویسندگان)، درجهٔ علمی، نشانی دقیق (کد پستی، تلفن، دورنگار و پست الکترونیکی)، محل انجام پژوهش، مسؤول مقاله و تاریخ ارسال) درج شود. عهده‌دار مکاتبات باید با علامت ستاره مشخص شود.

۸. ۲ چکیده: شامل چکیده‌های فارسی ساختار یافته (شامل هدف؛ روش؛ یافته‌ها؛ محدودیت‌ها؛ راهکارهای عملی؛ اصالت و ارزش و واژگان کلیدی (۳ تا ۶ کلمه)) است. تا حد امکان چکیدهٔ مقاله از ۳۰۰ کلمه تجاوز نکند . علاوه بر چکیده ساختار یافته، لازم است چکیدهٔ مبسوط فارسی بین ۷۵۰ تا ۱۰۰۰ کلمه نیز حاوی مقدمه، مبانی نظری، روش، نتایج و بحث، نتیجه‌گیری و کلیدواژه‌های مقاله تهیه شود، به طوری که حاوی اطلاعاتی از کل مقاله باشد و بتوان جداگانه آن را چاپ کرد. با توجه به این که مقاله بعدا به صورت کامل به انگلیسی برگردانده خواهد شد، نیازی به ترجمه چکیده مبسوط به انگلیسی نیست.

۸. ۳ مقدمه: شامل ۱- طرح مسئله؛ ۲- اهمیت و ضرورت؛ ۳- اهداف و سوالات اصلی تحقیق.

۸. ۴ ادبیات نظری تحقیق: شامل ۱- تعاریف و مفاهیم؛ ۲- دیدگاه‌ها و مبانی نظری؛ ۳- پیشینه نظری تحقیق و ... .

۸. ۵ روش‌شناسی تحقیق: در برگیرندهٔ ۱- محدوده و قلمرو پژوهش؛ ۲- روش تحقیق و مراحل آن (روش تحقیق، جامعهٔ آماری، روش نمونه‌گیری، حجم نمونه و روش تعیین آن، ابزار گردآوری داده‌ها و اعتبارسنجی آن‌ها)؛ ۳- سؤال‌ها و فرضیه‌ها؛ ۴- معرفی متغیرها و شاخص‌ها؛ ۵- کاربرد روش‌ها و فنون.

۸. ۶ یافته‌های تحقیق: ارائهٔ نتایج دقیق یافته‌های مهم با رعایت اصول علمی و با استفاده از جداول و نمودارهای لازم.

۸. ۷ بحث و نتیجه‌گیری: شامل آثار و اهمیت یافته‌های پژوهش و یافته‌های پژوهش‌های مشابه دیگر با تأکید بر مغایرت‌ها و علل آن، توضیح قابلیت تعمیم‌پذیری و کاربرد علمی یافته‌ها و ارائهٔ رهنمودهای لازم برای ادامهٔ پژوهش در ارتباط با موضوع، نتیجه‌گیری و توصیه‌ها و پیشنهادهای احتمالی.

۸. ۸ تشکر و قدردانی: قبل از منابع مورد استفاده ارائه شود و از ذکر عناوین دکتر و مهندس خودداری شود.

۹. نحوهٔ ارجاعات: منابع و مآخذ باید به صورت درون‌متنی و همچنین در پایان مقاله ذکر شود.

۹. ۱ ارجاعات در متن مقاله باید به شیوهٔ داخل پرانتز (APA) نسخه ۶ باشد؛ به گونه‌ای که ابتدا نام مؤلف یا مؤلفان، سال انتشار و صفحه ذکر شود. شایان ذکر است که ارجاع به کارهای چاپ شده فقط به زبان فارسی بوده و در اسامی لاتین معادل آن در زیر نویس همان صفحه ارائه شود. به عنوان نمونه: (شکوئی، ۱۳۸۷، ص. ۵۰) یا (وودز، ۲۰۰۵، ص. ۲۷).

۹. ۲ در پایان مقاله، منابع مورد استفاده در متن مقاله، به ترتیب الفبایی نام خانوادگی نویسنده بر اساس الگوی فهرست نویسی APA تنظیم گردد.

نمونه فارسی:

- رضوانی، م. ر. (۱۳۹۰). *برنامه‌ریزی توسعهٔ روستایی در ایران*. چاپ چهارم. تهران: نشر قومس.

- عنابستانی، ع. ا.، شایان، ح.، و بنیادداشت، ا. (۱۳۹۰). بررسی نقش اعتبارات بر تغییر الگوی مسکن در نواحی روستایی (مطالعهٔ موردی: شهرستان بهمئی). *مجلهٔ برنامه‌ریزی فضایی*، *۱* (۳)، ۸۰-۶۳.

نمونهٔ انگلیسی:

- Bourne, L. S. (1981). *The geography of housing*. London: Edward Arnold.

- Turgat, H. (2001). Culture, continuity and change: Structural analysis of the housing pattern in squatter settlement. *Global Environment Research (GBER)*, *1*(1), 17-25.

بسم الله الرحمن الرحيم

دانشکده ادبیات و علوم انسانی

مجلّهٔ پژوهش و برنامه‌ریزی روستایی

سال یازدهم، شمارهٔ ۳، تابستان ۱۴۰۱، شمارهٔ پیاپی ۳۸

صاحب امتیاز: دانشگاه فردوسی مشهد
مدیر مسئول: دکتر حمید شایان
سردبیر: دکتر علی‌اکبر عنابستانی

دستیار سردبیر: مهدی جوانشیری
مدیر اجرایی: زهرا بنی‌اسد
ویراستار انگلیسی: مرکز ویراستاری ادبیات
حروف‌نگاری و صفحه‌آرایی : الهه تجویدی
شمارگان: ۵۰ نسخه

نشانی: مشهد، دانشگاه فردوسی مشهد، دانشکدهٔ ادبیّات و علوم انسانی دکتر علی شریعتی، کد پستی ۹۱۷۷۹۴۸۸۸۳ ، نمابر: ۳۸۷۹۶۸۴۰ (۰۵۱)
بها: داخل کشور: ۲۰۰۰۰۰ ریال (تک‌شماره) خارج کشور: ۲۵ دلار (آمریکا– سالانه)، ۲۰ دلار (سایر کشورها– سالانه)
درگاه الکترونیکی: http://jrrp.um.ac.ir/ E-mail:Rplanning@um.ac.ir

*** این مجله در جلسهٔ کمیسیون بررسی نشریات علمی کشور مورخ ۱۳۹۲/۲/۲۵ رتبهٔ علمی–پژوهشی دریافت و طی نامهٔ شمارهٔ ۳/۱۸/۳۵۷۲۸ در تاریخ ۱۳۹۲/۳/۱۳ ابلاغ گردیده است.**

این مجلّه در پایگاه های زیر نمایه می‌شود:

- **پایگاه استنادی علوم جهان اسلام (ISC)**
- **پایگاه اطلاعات علمی جهاد دانشگاهی (SID)**
- **پایگاه بانک اطلاعات نشریات کشور (Magiran)**
- **فهرست دسترسی آزاد مجلات (Doaj)**
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مجله پژوهش و برنامه ریزی روستایی

سال یازدهم، شماره ۳، تابستان ۱۴۰۱، شماره پیاپی ۳۸

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