

CHALLENGES OF FOOD SECURITY IN RURAL AREAS USING GROUNDED THEORY APPROACH IN RAVANSAR COUNTY, WESTERN IRAN

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Abstract

In Iran, as a developing country, rural communities have a great contribution in supplying food. More than 80 percent of raw material in Iran are produced in rural communities. In spite of mass production emphasis of legislations on the food security of rural communities in Iran, the exiting evidence suggest that food security in rural areas is in an unfavorable condition. The objective of the study is to identify the challenges that food security faces. Statistical population comprises of villages constituting Ravansar county. Where the residents are in not favourable condition in terms of food security. In methodologically sense, the qualitative procedure of grounded theory is applied in order to run a deep assessment on the subject through theoretical sampling. The process of sampling and collecting field data continued up to theoretical saturation. Results revealed five main Interconnected challenges in food security. These Challenges are: include weakness in policymaking, poor economic conditions, environmental deficiencies and hazards, cultural barriers and social changes and instability in agriculture industry.

Keywords: *food security; food security challenges; grounded theory; Ravansar County.*

1. INTRODUCTION

Because of population growth and food shortage in various parts of the world, food insecurity has become a global concern. Based on this concern, the first Millennium Development Goal, according to FAO's report in 2015, is to eradicate extreme poverty and hunger (Brabazon,

Leunufna and Evans, Sinyolo et al. 2014). Food security is a state or condition. It is a flexible concept as reflected in the many attempts to define it in research and policy, therefore numerous definitions of food security exist. So much so that by 1992, Maxwell and Smith had counted over 200, and more are still being formulated (Ingram 2011).

However, the most common and prevalent definition for food security is proposed by World Food Summit in 1996: “all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life” (Anderson and Strutt, Bala et al. 2014). The major objective of food security and its most important concept is to assure access to sufficient food and to make proper use of it (Bohua and Changhe 2006). According to the latest definition an food insecurity it is “limited or uncertain availability of nutritionally adequate and safe foods or limited or uncertain ability to acquire acceptable foods in socially acceptable ways”. Food insecurity is one of the major obstacles against the development of societies and has adverse physical, mental and social impacts on the welfare of the society. Therefore, problems caused by lack of food security and food crisis is always a significant issue for governments and a subject to be studied in academia (Ishtiaque and Sofi Ullah 2013, Shtasel-Gottlieb et al. 2015).

Consequences of food insecurity mostly threaten developing countries and especially their rural areas (Jiuchun et al. 2010; Liangjie et al. 2009; Bala et al. 2014). During 1989-2015, as a developing country, Iran’s policies and programs of economic and social development, emphasized on all segments of the society, including vulnerable rural communities as to access, to food and also ensuring food security assured (Islamic Parliament Research Center 2015).

According to official reports in Iran (Ministry of Jihad-e-Agriculture 2015), more than 80% of food crops are grown and cultivated by rural population. However, results of some studies conducted (Sharafkhani et al. 2011; Ferotanfar 2013; Asgharian Dastenaii et al. 2013; Savari et al., Saadi et al. 2014; Rostami et al., Najafianzadeh et al. 2015) indicate that food security of rural communities, who are the main suppliers of foodstuffs in Iran, is in a poor condition. At its best, more than half of the rural population are subject to food Insecurity. It is emphasized in several studies (Liangjie et al. 2009; Huili et al. 2013; Msangi, 2014; See et al. 2015; Smyth et al. 2015) that agricultural productions status in a region has a determining role in the status of food security there. About 62% of rural population of the study area are directly involved working in agriculture (Statistical Centre of Iran 2015), and produce the greatest amount of corn, peas, wheat, tomato, beans and lentil in Kermanshah province, ranking the highest in 14 counties of the same province (Kermanshah Jihad-e-Agriculture Organization 2015). Nevertheless, assessing food security in rural areas of Ravansar, through the standard questionnaire designed by U.S. Department of Agriculture (Jamini et al. 2014), indicate that 78.9 % of the population are grouped in different categories of food insecurity: 34.4 % food insecurity without hunger, 32.2 % food insecurity with average hunger, and 12.3 % food insecurity with extreme hunger.

Prolongation of this situation will seriously threaten physical and mental health of rural population of Iran. In spite of an insecurity food status in the study area and its relative prevalence among all rural populations in the country, food security challenges among this segment of the society has not been fully assessed in a separate study and there is no scientific achievements regarding these challenges. Attempt is made in this study, to identify and analyze the basis and factors facing the status and the process of the region’s food security through a qualitative analysis and field survey based on the perception and assessment of residents.

2. STUDY AREA

Ravansar, a county with an area of 1125 km², is situated between the north latitudes of 34° 31' to 34° 59' and east longitudes of 46° 21' to 46° 49' (Figure 1). According to the last census conducted in Iran population, Ravansar is 46395, about 47 % of which are residing in 131 rural settlements. Of the total working rural population (8735 people), about 35 % are unemployed. Among the 65 % employed residents, 62 % are working in agriculture sector, 27 % in services and 11 % in industrial sector (Statistical Centre of Iran 2015).

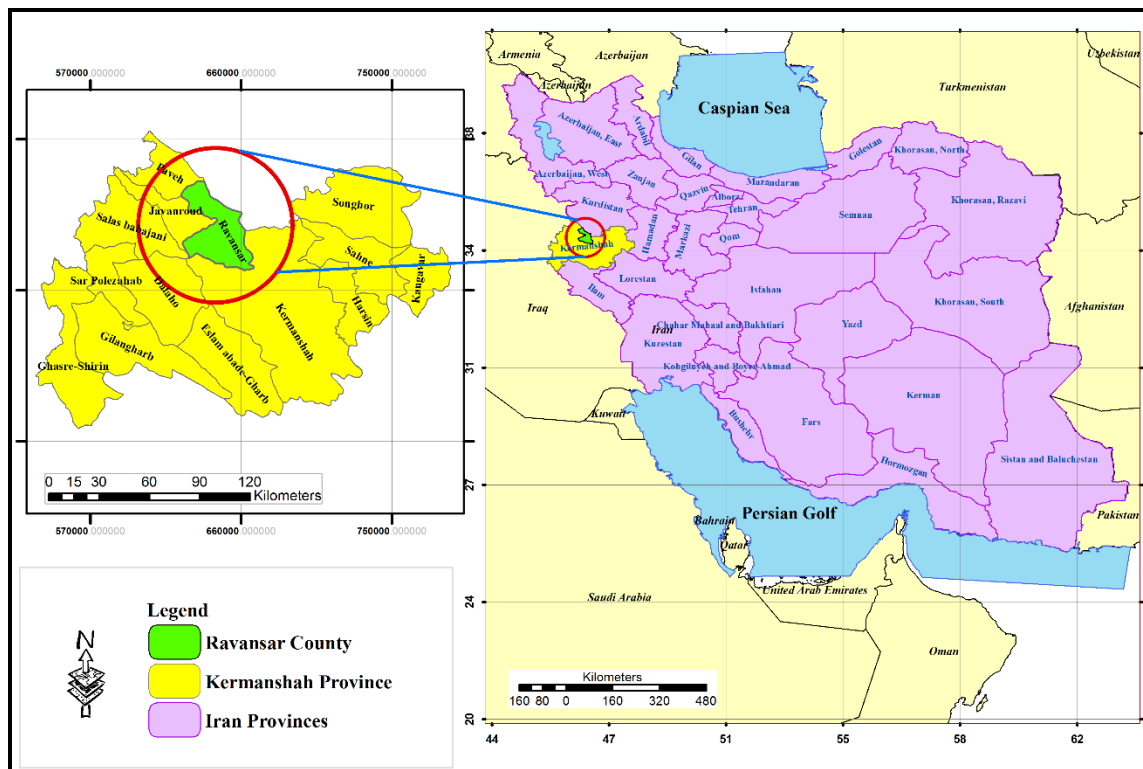


Figure 1. The map of study area, Ravansar County, Kermanshah province, Western Iran.

3. MATERIALS AND METHODS

3.1 Data collection

In terms of time, field operations of the study last for about 5 months (May 2015 to October 2015). In order to collect field data, 28 in-depth interviews (eight of whom were key informants), focus groups (5 groups in which 7 to 12 participants) and direct observations were conducted.

3.2 Method

Method adopted in this study is qualitative where the grounded theory approach is applied for data analysis. Grounded theory research varies depending on the applied approach. Three dominant designs are discernible (Hood 2007): the systematic design allied with Strauss and Corbin (1990) and Corbin and Strauss (2008); the emerging design, associated with Glaser

(1992); and the constructivist approach espoused by Charmaz (1990, 2000, and 2014).

To achieve the objectives of the study, systematic design allied with Strauss and Corbin (1990) is applied. This design is widely applied in grounded theory in educational research. It is prescribed more than the original conceptualization of grounded theory in 1967 (Glaser and Strauss 1967). A systematic design in grounded theory emphasizes on the use of data analysis steps of open, axial, and selective coding, and the development of a Rational pattern or a visual image of the theory generated. There exist three phases of coding in this definition (Creswell 2012).

In this study, theoretical sampling is applied where sampling is determined more during the research than prior to it. It is based on concepts drawn from the analysis and concepts assumed to be related to the evolving theory (Strauss and Corbin 1990). The process of sampling and collecting field data continued to the point of theoretical saturation (when responses of the last interviewed person is similar to those of earlier respondents, that is, until responses were repeated) (Strauss and Corbin 1990).

Data analysis is run through the three-step coding process (open, axial, and selective coding) allied with Strauss and Corbin (1990). In the open step, all concepts relating to food security challenges in the study area are identified and their characteristics and dimensions are discovered from the obtained data. In the second step, concepts resulted from open coding are related together in a more abstract way in order to recognize the axial codes. Finally, in selective step, the obtained concepts from axial phase are connected together in a fully abstract way in order to integrate, refine and provide the basis for development of paradigmatic model and grounded theory. Food security is the core concept to which the discussed codes are directly or indirectly related.

4. RESULTS AND ANALYSES

- The Existing challenges of food security in the villages of Ravansar

Based on the research findings in the open coding phase, 171 codes are associated with food security are identified in the study area. To be brevity, researchers sufficed to mention just some of these open codes. According to the connotations and the meanings of 171 extracted codes dimensions and characteristics there of, 31 concepts are identified in the axial coding phase. In the selective coding step, regarding the internal and conceptual connection between 31 axial codes, 5 core concepts were discovered.

Table 1 shows the results of three open, axial and selective conceptual coding steps. As represented, “poor policymaking”, “poor economic conditions”, “environmental deficiencies and hazards”, “cultural barriers and social changes”, and “instability in agriculture industry”, are the core grounded shortcomings introduced as challenges that threaten food security in the study area.

need to labor force and led to the unemployment of a greater number of villagers. Yet, the surplus labor force is not willing to work other sectors due to lack of employment opportunities and alternative jobs. Applying modern agriculture machinery imposed heavy costs on rural households. This issue became more tangible with the rise in the price of fuel and electricity in the recent decades. In this regard, some villagers have asserted that *“benefits of planting crops in some farmlands are far less than the costs of producing them because the expenses of agriculture machinery are so high.”* Therefore, with the unemployment of villagers and the rise in households costs of living, mechanization endangered their food security.

Villagers, referring to the weaknesses of price control policies of the organizations related to rural development affairs, complained that their crops did not have a guaranteed price. In this regard, one of them asserted that *“last year (2014) I sold each Kg of tomato for 7 cents and this year (2015) I sold each Kg of watermelon for 1.5 cents.”* Moreover, poor supervision on the prices of needed goods and weak prevention from profiteering and short weighting are other shortcomings of price control policies, which threaten food security of villagers of the area in various manners like increase and reduction of household liquidity.

At the beginning of the implementation of Targeted Subsidies Policy, most villagers, especially crowded households, receiving about \$13 (equivalent of 2015 currency) per month, per family member, were satisfied with this policy and even some households just relied on this income obtained from subsidies. However, with the increase in the price of different kinds of energy (electricity, drinking water, oil and gas) and basic commodities like bread and other needed items, they began complaining about implementation of subsidies policy. In this regard, some villagers have noted that *“our conditions would have been better if, in addition to receiving subsidies, the prices remained fixed”*; *“I have about 12 cows and every two months, I pay about 28 dollars for their needed water.”* Therefore, government’s unstable policies of financial support are identified as another challenge facing villagers’ food security.

Assessments of the rural areas in the case study indicate that, problems caused by unemployment and increased costs of living forced young and middle-aged villagers to cross the border for wages. However, instability of these conditions, due to security policies, has made villagers face a kind of temporary job or, in a more complete sense, an unstable employment. Moreover, spatial inequalities and poor infrastructures in rural areas is another evidence of the fact. Lack of schools, equipped health centers, gas delivery etc. in rural communities, reflect the centralization of services in urban areas. In addition, less bargaining power and inability of local authorities and policymakers in fair distribution of services and infrastructures, is effective in increasing rural households’ financial costs. In this regard, some of the villagers asserted that *“we spend a large amount of our income on buying gas cylinders, oil and gasoil”*; *“we have never met district administrator (Bakhshdar) and the head of Jihad-e-Agriculture organization”*; *“Shouldn’t a village five kilometers from city possess landline telephone?”* Furthermore, most villagers declare that, because of heavy bails required by banks, too high interests, tough conditions of loan repayments and bureaucracy, they are unsatisfied with terms and conditions of facilities offered by banks. Regarding unfavorable conditions of banks policies, a villager stated that *“banks interests are too high and conditions of getting loans are so difficult that I can’t dare applying for one.”*

A review of the above discussions indicate that poor policymaking in different sectors has finally led to the weakening of economic conditions, while the most important factor is assuring food security of village dwellers. These factors are interrelated complex with respect to financial conditions of the villagers.

- Poor economic conditions

Unfavorable economic conditions have faced for rural dwellers of Ravansar with Challenges in accessing their required food materials. In this regard, it is worth mentioning points.

The first point is that, villagers believe that value and price of their crops and livestock products are in a low level and most activities and efforts in rural areas end in failure. Accordingly, some of the villagers asserted that *“many of villagers have suffered great losses due to investment in livestock and poultry sector and now they are broke.”* Another person stated that *“neither agriculture, nor animal husbandry and laboring are profitable.”* In addition to the above-mentioned factors, lack of diversity among rural jobs and their seasonal nature, waged laborers, lack of households’ capital and liquidity etc., all have limited villagers’ access to high quality food items with high prices, so that the unfavorable economic conditions make them to encounter serious challenge to reach food items and food security. Accordingly, some of the villagers declared *“I have to sell about 40 Kg of cucumbers so that I can buy one Kg of Iranian rice.”* Moreover, due to lack of profitability of economic activities in rural areas, villagers are not willing to invest in such regions and as one of the village dwellers said *“if anyone makes some money, he would buy a lot of land or a house in urban areas.”*¹

The second point is that due to the non feasible distances farm to wholesale markets to sell farm and livestock products, the transformation cost is high, they are forced to sell their products to brokers on the vicinity. In this regard, we suffice to quote from a producer who said *“a broker who buys our products and sells them in the main markets in less than three to five days, earns more than us who work for 9 months.”* As a result, villagers’ profits will decrease even more and this will endanger their food security.

The third point to be discussed here is poor job security and less stability of occupation. Due to lack of private and public sector investment in the study area, villagers ignore job innovation and entrepreneurship which prevent, severe deficiencies of insurance activities in rural areas, financial weakness etc., have threaten their job security and stability of occupation. In order to better understand these points, it is worth to hear some of the villagers: *“there exist no factories and workshops.”*; *“there are more than 20 people with academic degrees in the village who are unemployed”*; *“if there were suitable job opportunities, I would not have remained unemployed even for one minute.”* Each of the above factors plays an important role in creating poor economic conditions for them, and make it very difficult for villagers to access required financial resources, as one of them said *“food is purchased by money and to have money you should be employed.”*

- Environmental deficiencies and hazards

In Iran, villages are, highly depend on their surrounding environment with a mutual influence on one another. Rural settlements of Ravansar are not exception to this rule, that is any change in the environmental conditions of the village will influence villagers’ lives, in this respect their food security. Severe drought in recent years and drying up of rivers and springs in villages, reduced precipitation and irregular rainfalls, influence agricultural products of the rural area under study in a significant manner. To better understand this issue, it is noteworthy listen to some of the villagers. *“For some years, the frequency of snowfalls has been less than the number of fingers of one hand”*; *“Rainfall has decreased, so have our products”*; *“There is no rainfall as much as we used to experience in the past”*; *“Till 10 years ago, all farmers had at least half a hectare of irrigated land but today just a handful of*

1. In Iran, land investing in urban areas is one of the most profitable activities.

households possess such lands.”

Reduction of products obviously results in a decrease in income, consequently, limited access of villagers to food material, thus low food security. In addition to the above-mentioned factors, crops frostbite, hail and frequent heavy storms are other hazards that play a significant role in the reduction of villagers' production and profit. Most of the villagers agree on the point that *“Storms of (Zelan wind²) during the season of crops fruitfulness (especially wheat, peas and barley) prevents them from getting ripe and turns them into ‘Sabzeh khoshk’³ (dry grass).”* In addition to the negative impacts of the above mentioned factors on agricultural products, unfavorable environmental conditions influence also the farmlands and pastures. Accordingly, many of village dwellers asserted that *“Due to the shortage of rainfalls, diversity of pastures has reduced and they are not as dense and rich in greenery as before for the livestock to graze in”*. Decreased rainfall, loss of water supplies and turning of irrigated lands into dry lands (the issue that significantly decreases the profitability) etc., reduce villagers' productions and income. Consequently, the limited availability of financial resources, which is the main prerequisite to achieve and guarantee the food security, has become a serious challenge for village dwellers.

- Cultural barriers and social changes

In the study region there exist a wide gap regarding food preferences between the young and old generations according to some villagers *“My children prefer eat egg instead of traditional foods”*; *“Our children don't eat local and old-style food”*; and *“Expectations on food consumption have risen.”* Therefore, a kind of change has occurred in the eating culture, and villagers avoid consumption of local and traditional foods (such as *Patla, Dovinah, Kangar, Kalanah, and Khozhah*), which are mostly prepared with dairy products and indigenous vegetables. Low level of education, especially in women, and their poor knowledge on nutritional have affected in lowering the quality of cooked foods. The following statements confirm this claim: *“We really do not have a specific dietary plan”*; *“My wife dose not make good use of food material I provide for her”*; *“Consumption of vegetables is not much important for us any more.”* Moreover, findings indicate that, high costs of preparing food has made the villages to ignore local customs and traditions, like get together for different reasons and having a meal together in order to promote sense of sympathy and trust. One of the most exciting local customs among villagers is to prepare ‘Nazri’ (charity food) and distribute it among people, which today has unfortunately lost its place among villagers due to economic reasons. In this regard, one of the residents declared that *“In the past, a cow was sacrificed and half of the village dwellers had a share in its meat, but now such customs are almost gone”*; *“In the past, people were more sympathetic and truthful in sharing life necessities.”*

Another negative cultural point which is common in other villages of Iran that leads to the reduction of production and productivity, is the compartmentalization of farmlands due to inheritance, the issue that most of interviewees also emphasized. One of the residents asserted that *“My father had 6 hectares of farm lands which were divided among my 8 brothers and sisters after his death; now I have four children and after my death, my farmlands will be again divided between them.”* In addition to the above factors, this cultural point, i.e. inheritance of all children, which will lead to the extreme fragmentation of lands in the next few years, will have a severe negative impact on agricultural production and as a result, will

2. A kind of local wind, which is known as ‘Zelan’ among residents of the area.

3. A state in which crops and their shrubs dry out before getting ripe because of climate warming and humidity loss. In this case, yield reduces to the lowest level possible. This state is also known as ‘windburn’.

threaten the process food supplying and food security of villagers in general.

- Instability in Agriculture Industry

There are many reasons involved the instability of agriculture and its subsectors in the rural areas under study: 1) villagers selling their farmlands and inevitably due to poor financial conditions and smallness of owned lands, especially among new owners who have inherited those lands, 2) selling livestock because of drought and their low price in relative to the cost of their, 3) drastic seasonal changes in the price of products especially in the harvest season, and 4) lack of enough security in taking care of livestock and crops due to theft. Accordingly, villagers asserted that *“Since small lands aren’t cost-effective, most of owners sell them”*; *“If farmlands are integrated and not fragmented I Would have had many plans on them”*; *“In 2008, most of villagers sold their livestock because of drought, and after that they couldn’t afford buying any farm animals”*; *“In different seasons, prices fluctuate sharply and we don’t know what to plant for next year”*; *“With the present conditions, we cannot count on agriculture”*; *“Any time, thieves may steal our products and livestock.”* Findings also indicate that, during planting, crop protection and harvesting, a great part of products are wasted and lost because the machinery especially combines are worn out. Regarding this point, some of the villagers asserted that *“For these vast farmlands, there are only four combines active in county”*; *“Worn out threshing machine ruined a large part of our peas”*; *“Nobody cares about the quality of combines”*. Consequently, all these factors reduce productions volume and thus villagers’ incomes. It can be deduced the Authorities push the agriculture industry toward instability and pose a serious risk to the food security of rural dwellers’.

Considering the influential functionality of these insufficiencies, shortcomings and especially the synergic interactivity and trade-offs between them, weakening food security of the study area and advancing its deterioration, the following schematic model is developed on the challenges affecting food security (Figure. 2). As discussed, all five factors of poor policy making, poor economic conditions, environmental hazards and deficiencies, cultural barriers and social changes and instability in agriculture industry cause unfavorable conditions and threaten the food security of village dwellers in a serious manner. In this proposed model, poor policy making is considered as core concept. In fact, this concept plays an important role in weakness of villager’s food security, and as motional it can influence other negative Concept in food security.

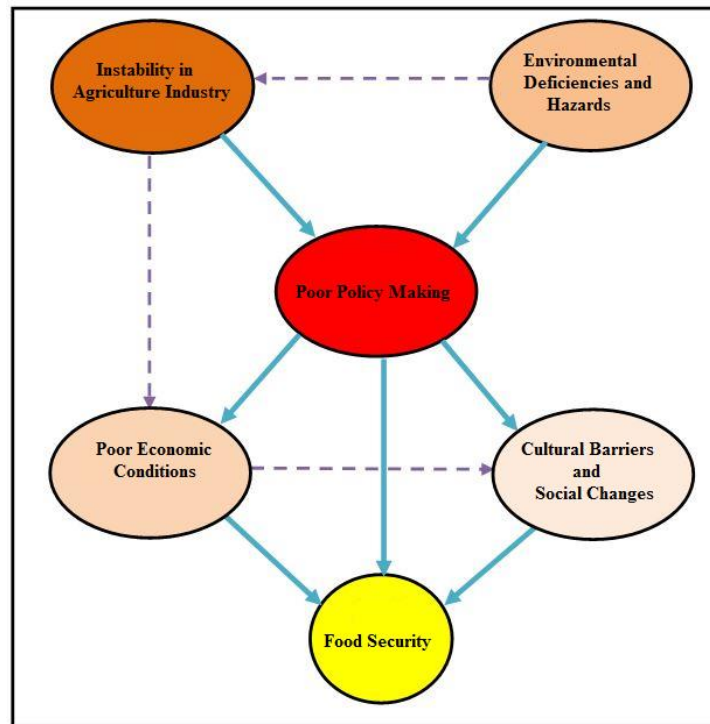


Figure 2. Food security challenges in rural study area, Western Iran

5. CONCLUSIONS

In developing countries, deprivation of rural settlements compared to cities is not just limited to poor access to sanitation, health, and educational facilities, job opportunities and spatial centralization and inequalities. Regarding food security, which is an indicator of development at global sense, rural areas are in an unfavorable condition compared to urban regions. This is a result of challenges and barriers facing food security development in rural areas of these countries. The universality of this problem has made the food security a global concern. The objective of this study, is to identify and explain food security challenges in these rural areas. The obtained results indicate that several interrelated insufficiencies have made the feeding and nutritional patterns of the communities subject to study insecure. Introducing the processes that causer these threats, in every part of the world, is a vital measure to mitigate the challenge of food insecurity and planning to resolve the issue.

As the results revealeb, poor policymaking is one of the most influential barriers in achieving food security in the rural communise. Considering the fact that policymaking system in Iran is fully centralized and follows the top-down approach, ideas, needs, priorities and viewpoints of village dwellers neither are taken into consideration at any levels of planning procedures, nor in formulation and implementing the adopted policies. Ignoring the ideas and Preventing the villagers' participation in the decision making processes for adopting policies would lead to negative chained consequences, especially a decline food security status. Notably, the poor control on the prices of agricultural inputs, products and needed food items for villagers, lack of guaranteed purchase of their productions, increased cost of utilities, lack of rural authorities' concern and interest upon villagers' priorities and problems, unjust distribution of facilities, periodic nature of revenues of cross-border activities etc. constitute major concern it not dealt with would promotes powerlessness and

lack of any bargaining power. Therefore, participation and engagement of villagers in the process of policymaking and taking their priorities and viewpoints into account are necessary to improve food security of village dwellers, in addition to more and less guarantee the success of development projects.

Economic status of households is one of the main determinants of achieving food security (Anderman et al. 2014; Trefry et al. 2014). Accordingly, results of this study indicate that poor economic conditions of rural dwellers adversely affect their food security. In general, poor economic conditions of the villagers here can be ascribed to poor policymaking; instability of agriculture. Lack of cost-effectiveness of farming activities and investments in rural areas, lack of financial strength and capital unavailability, low price of products compared to their production cost, lack of job opportunities and career options in rural areas, seasonal careers and black jobs, low wages, difficult access to the market and high costs of transferring products to marketplaces, and finally significant role of intermediaries and brokers in rural areas promote food insecurity. These factors, therefore, mutually affect each other and create situations where rural households have limited access to financial sources required to purchase food. Poor economic condition of the dwellers of the area under study is identified as the main barrier to achieve food security. In order to promote economic status of villagers and, consequently, improve their food security, the following solutions are suggested: to guarantee purchasing their products, provide stable financial support and increased job opportunities, promote an entrepreneurial culture, develop local markets, provide rural access to large markets etc.

In the environmental sense, drought, decreased precipitation and irregular rainfalls, severe and frequent winds like ‘Zelan’, frostbite, decreased diversity and strength of pastures, drying up of springs and a reduction in underground water level, conversion of irrigated lands to dry farmlands, increase in the number and variety of pests etc., are other deficiencies and hazards involved in food insecurity. These factors cause limitations damaged crops; reduced forage for feeding livestock; increased costs of pesticides and chemical fertilizers; reduced productivity and fertility of farmlands. In fact, some climatic hazards like drought, reduced precipitation, frostbite, and heavy storms, which have negative affect on food security, are out of the control of the villagers.

In several studies (International Federation of Red Cross and Red Crescent Societies 2006; Savari et al. 2014; Trefry et al. 2014), impacts of cultural and social factors including level of education, gender, identity, cultural changes, and activities of local institutions on food security of households are emphasized. Results obtained in this research conformably indicated some sociocultural determinants consisting of eating habits and food culture, poor knowledge base and awareness about nutrition, waning culture of cooperation and sense of sympathy and assistance, gradual fragmentation of lands due to the law of inheritance etc., all make it difficult to access food. Phenomenon occurs in various manners like as refusal of local and traditional foods (which are of low costs and high quality), little attention to the benefits of dietary diversity, wane of the culture of making charity foods and ‘Nazri’, decreased agricultural productivity and lose of scale benefits of integrated farm lands due to the ‘inheritance law’. In order to deal with these problems, it is suggested to encourage family members, especially the young to more consume use traditional and local foods, raise people’s awareness about the benefits of eating such foods, increase women’s nutritional knowledge, and amend the law of all children inheriting critical assets, especially farmlands.

Findings of this research reveal that, instability of agriculture is another problem facing food security of villagers under study. Agriculture sector, which supplies a great part of food in Iran, plays an undeniable role in the fulfillment of food security (Seydaei et al. 2013;

Ghalibaf et al. 2014; Ministry of Jihad-e-Agriculture, Jamini 2015). In Iran, however, several factors including reduced investment in agriculture sector, temporary policies lacking scientific background, weakness of agricultural mechanization, low managerial efficiency of agriculture sector etc., (Ministry of Health and Medical Education 2004; Safarkhanloo 2011; Mehrabi and Owhadi, 2014; Hosseini et al. 2014) lead to the problems at hand. There exist, based on the results, some agricultural-related insufficiencies which create unfavorable conditions for farmers' security in food. Rigorous price fluctuations of agricultural products during the farming season; gradual sale of assets such as livestock, farmlands and gardens and orchards; distant and disperse distributed farms; unprofitability of equipping small and sparse farms with modern irrigation systems and worn out and old agriculture machinery, are the instances in this field. Dealing with these obstacles of food accessibility, entails the prevention of sharp decline in products' prices especially in harvesting season, allocation of subsidies to farmers for different activities they have to do on farms, consolidation of lands as far as possible and avoiding more fragmentation, and finally replacing the worn out machinery.

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