

Study of the effects of inhabiting Bakhtiari nomadic tribes on agricultural production (Case Study: Shahid Gholipour city of Shoushtar)

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Abstract: This study aims to investigate economic-social effects of Bakhtiari nomads habitation. The current study is the type of descriptive – correlation studies which is practical in terms of objective. Research statistical community are heads of nomad households resident in Shahid Gholipour city at Shooshtar pre-province with 350 households which 300 families were settled in the focus of development in the years of 1998-1999 and 50 families of nomadic tribes of mentioned tribe who were settled in the vicinity of development center of Shahid Gholipour and migrated to countryside areas of Masjid Soleiman and Kouhrang in the summer. 108 heads of households as an inhabited member were measured as sample size using Cochran formula and 50 heads of households of the families uninhabited surveyed as census. The main research instrument was questionnaire and its validity was confirmed by a panel of experts and research reliability was confirmed by calculating Cronbach's alpha coefficient for different parts (0.85). Research results show that aging and reducing the number of households are two important factors in settlement. Greater number of animals kept in nomadic tribes, but the amount of arable land is higher in settled nomads. Comparison of crop and livestock production in the two groups showed no significant difference is observed in 99% so that animal products in nomadic tribes is higher but crop production is less. To investigate the factors influencing the willingness to settle or migration living, logistic regression was used. The results show that the variable of urban world trend, varying levels of access to welfare services, the number of family members, social participation variables, age, variable of life costs and variable of agricultural lands are entered.

Key words: Sedentary tribes; Bakhtiari, Socio-economic impacts; Shoushtar

1. Introduction

Iranian society is formed of three urban, rural and tribal societies. Nomads with 2% population supply almost 25% of nation's meat. Nomads, as the third of their lives, are constantly interwoven with nature and the natural elements so that natural factors have the greatest impact directly on their lives (Paplyi Yazdi, 1992). According to Iran Statistical Center, nomadic tribes are people who have at least three characteristics of social construction, reliance of subsistence on farms and nomadic or shepherds lifestyle (Zia Tavana and Tavakoli, 2007). According to socioeconomic census, nomadic tribes were 212660 nomadic households in 2008 with 212,660 of population in the country. The number of nomadic households to the nomadic census in 1998 reported as 199930 households shows about 6 per cent increase. This is while the nomadic population compared to the previous census reported as 1304089 people have decreased by 9%. Experts believe that one of the main reasons for the increasing number of tribal families is breaking down the expanded families to nuclear families. Of 1186830 people of nomadic society,

609347 one are men and 577483 ones are women (Statistical Center of Iran, 2008).

Tribal society, with 25 million animal units (28% light cattle and 4% of heavy cattle) which supply 32.5 million hectares of pasture (38% of country's good pasture) 650 hectares of land under cultivation, more than 20 percent protein, 35 percent crafts, 500 thousand tons of milk, 180 tons of meat and 24 percent of agricultural production (agricultural and horticultural) (Raisizadeh, 2009). Generally, tribal society has many problems which the most important of them are livelihood and livestock problems. Livelihood problems of nomads include low human development indices, low rate of labor productivity, extreme vulnerability to natural disasters and accidents, traditional ways to deliver cargo, non-instant access to the slaughterhouse (Tavakoli, 2004), lack of food for grazing of nomads, legal constraints and bottlenecks in preserving tribal areas, absence of service in tribal areas due to impassable ways or their weak participation, lack of facilities in State Department of Tribal Affairs in the field of equipment, manpower and administrative space for giving service (Hayati, 2006). Problems of nomads livestock include pasture poverty, droughts, floods and natural disasters, resorting of rural people to nomadic pastures and ranges, preventing villagers from using nomadic pastures (Amir

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Ahmadian, 1999), increasing costs and low incomes, excessive use of the capacity of rangelands (livestock density per unit area), lack of enough training and information on how to optimize the production and processing of products and reduce costs, failure to ensure timely purchase of the product and buy it, no guarantee to buy surplus livestock of nomadic tribes which reduces the pressure on pastures (Irvani and Turkan, 2005).

All the above problems are among nomadic tribes problems in Iran that all these factors have caused the nomads are spontaneously directed or turn to sedentary. In Khuzestan Province, there are over 50 tribal families in 100 centers which 13 centers are conductive and 87 centers are spontaneous, which generally 8000 nomadic households have been organized in these associations (Rezai et al., 2007).

Now the main research question is what effect has the sedentary tribes in these centers on their agricultural production. Study design and locating centers for developing nomadic settlement was began in 1992 at Khuzestan which during the second and third development programs, 6100 nomadic households are settled in Andimeshk, Izeh, Shooshtar, Dezful, Shoush, Ramhormoz, Behbahan, Baghmalak, Masjid Soleiman and Lali in triban areas and the number of 1050 households are settled during the years of 2005 and 2006 (Raisizadeh, 2009).

Derikwand (2007) showed that the design of organizing and inhabiting nomads is led to improved services conditions agriculture and immigration. In contrast, in the areas of job creation, increased income, access to health facilities and access to the mass media have had limited success.

Bardi (2011) showed that settling Turkmen tribes causes social and economic development of the city during its short life than the neighboring towns, cultural development of society, especially Turkmen women and their harmony with the contemporary developments of Iran in the field of community development, literacy and social contributions.

Raisizadeh (2009) showed that implementing the settlement design has been successful in the promotion of level of social welfare of settled households. But in economic terms, it does not have a large impact on increasing tribal families income, creating generator employment, balance of livestock and pasture, replacing farming activities rather than livestock activities so that only the lives of settled nomads has become from former nomadic life to half-nomadic life and herd management.

2. Materials and methods

The present study is a functional study in terms of objective and survey and a descriptive-correlation one in terms of data collection, degree of monitoring, degree of variables control and the capacity of generalizing findings. In this study, accommodation association of Shahid Gholipour, a subsidiary town of Shoushtar Pre-province, has been selected as a

research area. To perform research and field work for the social and economic effects of sedentary of nomadic Bakhtiari tribe; tribal families residing in the Shahid Gholipour township at Shoushtar pre-province with 350 households are considered as statistical community. To determine the sample size, 300 families residing in the city (300 = N) using Cochran formula, 168 subjects were selected as a sample. Also, among the 50 nomadic families lining in the vicinity of Shahid Gholipour nomadic settlement, 50 households were considered. Therefore, 158 subjects were finally determined for the present study sample size. In this study, to explore the implications of accommodation and implications for livestock development activity, a questionnaire was used. A panel of experts is used to determine the validity of the research instrument. To determine research reliability, the Cronbach's alpha coefficient was used. Based on the results obtained, questionnaire reliability was in an acceptable range (above 0.7).

3. Findings

3.1. Personal features of respondents

The results of personal features of respondents indicated that 68.4% of them are settled percent and 31.6% are migratory. Survey respondents indicated that the median age of 71/59 years. Survey of respondents' age indicate that their average age is 59/71 years old. Survey of nomads' education showed that 81.6% are illiterate and 18.4% are partly literate at the level of reading and writing, which showed a low level of education in tribes. Investigating the settled respondents indicated that an average of 12.21 years of their settlement have been in Shahid Gholipour town and the highest respondents have 14 years old that are settled in this town (31.6%). Survey of the number of family members of respondents show that their family members are 10.58 people, which are at least 5 ones and maximum of 20 people. Also, survey of the number of female members show that each household has an average of 5.22 women and in surveying the number of male members, the results showed that each household has an average of 5.36 members. The main occupation of 41.1% of respondents are agriculture, 38% is livestock and 17.7% are workers. The second job of 57.6% of respondents is agriculture and 38% are workers.

3.2. Production characteristics of respondents

In surveying the production characteristics of respondents, obtained results showed that 64.4% of them are not shepherd. But other respondents have an average of 44.91 sheep. Results also showed about maintaining and raising goats also showed that 70.3 percent of respondents do not foster goats and 29.7% of them have also an average of 43.13 goats. In surveying nurturing and maintaining cattle,

results showed that 82.9% do not have farms and 17.1% have an average of 0.721 dairy cows. Surveying of the average amount of agricultural lands among respondents show that they have an average of 1.96 acres of land which is at least 0.5 acres and a maximum of 5 acres. Most acres located on floors 1 to 3 (67.1 percent). Also, the average of arable land is 1.55 acres which the most frequency is located in floors 1-3 (57%) and the mean of water grounds is 0.4 acres which 67.1% of respondents do not have water ground.

Table 1: surveying the effects of sedentary

Impacts	Mean	Sd	CV	Rank
In nomadic tribes, the amount of divorce is less than that of settled communities	4.35	0.696	0.160	8
Sedentary increases the addiction in society	4.54	0.571	0.126	6
Youth employment rate is higher among nomadic tribes	4.20	0.747	0.178	9
Theft and security issues in nomadic tribes are lower than settled communities	3.95	0.835	0.212	10
Sedentary causes tribal conflict in the community	2.66	0.901	0.246	11
Sedentary has caused the fading of respect for elders in the community	4.59	0.566	0.123	5
Sedentary causes fading customs and beliefs of the indigenous culture	4.66	0.474	0.102	3
Sedentary reduce social and cultural welfare of the community	1.94	0.831	0.428	12
The role of local leaders among nomadic tribes is more than village and tribal councils	4.69	0.464	0.099	2
Sedentary reduce self-sufficiency and dependency on rural and urban communities in the province	4.79	0.408	0.085	1
Sedentary reduces simple living and lack of luxury in a community	4.70	0.526	0.112	4
Sedentary decreases livestock and agricultural activities and in the community	4.49	0.583	0.130	7

Surveying the production differences between settled and nomadic tribes: comparing the professional differences between the two settled and nomadic tribes show that there are significant differences between the two groups in the number of breeding sheep, which is to be expected. Nomadic tribes have more sheep than settles ones. Also, this difference in the number of goats and cattle is significant at 99% and given the mean variables, it can be said that nomadic tribes hold a greater number of animals. Also, in studying the amount of agricultural lands, the results show that there are significant differences between the two groups in the amount of agricultural land, i.e. settled nomads have more lands than nomadic tribes, which these differences are more related to dry land than irrigated lands. This means that settled tribes have more dry lands than nomadic ones which almost is more than twice; however, there are significant differences in the amount of irrigated land. This finding show that nomads settlement is done without a new definition (agriculture) is defined for them. The results are presented in Table 2.

3.4. Examining the differences in the amount of animal products between the settled tribes and nomadic tribes

In comparison of the amount of animal products in the two groups, the obtained results showed that a significant difference at the level of 99% can be seen in the number of sold sheep. Nomadic tribes have sold more sheep. There is also a significant difference at the level of 99% about goat, i.e. nomadic tribes have sold more goats per year. Nomadic tribes have sold more cattle than the

3.3. Effects of sedentary

in surveying the effects of sedentary, results showed that sedentary leads to reduced self-sufficiency and dependency to rural and urban communities and in the next priorities, the role of local leaders among nomadic tribes is more than village and tribal councils. Sedentary causes fading the beliefs to traditions and indigenous cultures (Table 1).

settled ones about cattle. Hence, it can be said that the livestock activities of nomads have also been wasted away by their sedentary living. There are also significant differences at the level of 99% about the products of wool and hair. Other results are given in Table (3).

Table 2: studying the manufacturing differences between tribes settled tribes and nomadic tribes

Variable	Group	Mean	T value	Sig
Number of animal (sheep)	Settled	1.45	21.19	0.00
	Nomadic	138.8		
Number of animal (goat)	Settled	0.86	5.71	0.00
	Nomadic	106		
Number of animal (cattle)	Settled	0.28	5.71	0.00
	Nomadic	1.86		
The total amount of agricultural land	Settled	2.32	7.94	0.00
	Nomadic	1.18		
Amount of dry land	Settled	1.86	8.19	0.00
	Nomadic	0.9		
Number of irrigated land	Settled	0.476	1.59	0.114
	Nomadic	0.28		

3.5. Examining the differences in the amount of agricultural products between the nomadic tribes and settled tribes

Comparing the amount of agricultural products of the two groups show that there are significant differences at the level of 99% confidence in the

amount of wheat production in the two groups. Settled tribes produced more wheat. There are also significant differences regarding barley product between the two groups at the level of 99% confidence. Settled nomads produced more barley. Results are given in Table (4).

Table 3: studying the differences between animal products between settled tribes and nomadic tribes

Variable	Group	Mean	T value	Sig
Number of sold sheep	Settled	0.75	21.27	0.00
	Nomadic	54		
Number of sold goat	Settled	0.213	18.18	0.00
	Nomadic	33.2		
Number of sold cattle	Settled	0.08	4.79	0.00
	Nomadic	0.64		
Amount of wool produced	Settled	3.14	21.14	0.00
	Nomadic	329		
Number of hair produced	Settled	0	16.99	0.00
	Nomadic	125		

3.6. Study of factors influencing the settlement of nomads

To investigate the factors influencing the settlement of nomadic life, logistic regression was used. In this study, because the dependent variable is settlement which is a measured both planar settled and nomadic and independent variables include age, access to utilities, the amount of livestock, community involvement, social status, cost of living, the production in the side business, the production of crops, livestock numbers, the amount of agricultural land, number of livestock sold, number of family members and the metropolitan trend, the order to analyze this study was given. Statistical characteristics are used in logistic regression, which has a Chi square distribution. Results show that variable of metropolitan variable by improving Chi square equal to 42.009 and significance level is P=0.00. In the next step, variable of access to utilities by improving Chi square equals to 26.214 and significance level is P=0.00. Variable of household members by improving Chi-square is 19.355 and variable of social participation by improving Chi-square is 66.490. Age variable with Chi-square is 10.517, variable of life costs with Chi-square is 4.299 and variable of agricultural lands with Chi-square is 4.853 which did not enter the equation. Chi-square value indicates that how much the independent variables are effective on the dependent variable. If P value is less than 0.05, the effect of the independent variables and their relationship with the dependent variable was considered significant at 95%. If its value is less than 0.01, confidence level increases to 99% in that results obtained show that the eight variables involved in the analysis are effective at the level of 99% confidence on nomadic settlement. Results are given in Table (5).

Table (6) shows constant value, factor B, odds ratios and Wald statistics. In this section, the

negative coefficient of the variable of access to utilities and the number of family members indicates a negative impact of these variables on the tendency for settlement. This means that the greater the degree of access to utilities, the less tribes tend to settle down. Also, the greater the number of family member, the less the tendency to settle down. Odds ratio indicates the ratio between frequencies belonging to a class to the frequency of not belonging to a class. Wald statistics also show significant variables entered into the equation, the results show that Wald statistics is significant for all entered variables. Based on the constant value and B coefficients, logistic regression equation can be written as follows.

Table 4: studying the differences in animal products between settled tribes and nomadic tribes

Variable	Group	Mean	T value	Sig
Wheat	Settled	1729.81	6.40	0.00
	Nomad	124		
Barley	Settled	559.07	2.55	0.012
	Nomad	122		

4. Conclusion

Studying the factors influencing the tendency for settlement show that the seven variables of metropolitan tendency, access to utilities, the number of family members, social participation, age, life costs and amount of agricultural lands variables indicate the tendency for settlement. Number of family members and the availability of utilities have a negative impact. The less the amounts of available access to utilities, the more the tendency for settlement. Also the larger the family size, the less the tendency for settlement. However, other variables have a positive impact on willingness to settle. As the age increases, the tendency to settle will also increase. Also, the greater the extent of agricultural land, the more the tendency for settlement. The higher the living costs, the more the tendency for settlement.

In this part of the study, some practical suggestions are made according to research findings:

- Providing manufacturing services such as veterinary services to the public and appropriate credit to the rate settled to livestock development activities;
- Provision of appropriate production inputs such as fodder and concentrate on state rates;
- Attention to guaranteed purchase of products manufactured by tribes settled and livestock insurance;
- Development of local markets and transport networks in order to strengthen the marketing of products;
- Identifying appropriate accommodation centers with good agricultural land and pastures and social studies before the nomads settlement to reduce the social problems arising from the settlement;
- Identifying suitable centers of settlement with rangeland and desirable agricultural land and social

studies prior to nomads settlement to reduce social problems and difficulties caused by settlement;

- Defining and identifying alternative activities and training settled nomads to reduce the vacuum caused by reduced livestock activities of nomads;

- Encouraging tribes to work together to develop cooperative manufacturing and services in accommodation centers;

- Holding festivals of training classes to make the youths familiar with tribal culture to reduce the impact of cultural accommodation.

Table 5: the effect of independent variables on the variable of tendency to nomads settlement

Step	Chi-square	Degree of freedom	Significance level	Model		
				Chi-square	Degree of freedom	Sign
1	42.009	1	0.00	42.009	1	0.00
2	26.214	1	0.00	68.223	2	0.00
3	19.355	1	0.00	87.577	3	0.00
4	66.490	1	0.00	154.067	4	0.00
5	10.517	1	0.01	164.585	5	0.00
6	4.229	1	0.04	168.814	6	0.00
7	4.853	1	0.028	173.666	7	0.00

Table 6: Constant value, regression coefficient, odds ratio, Wald statistic

Variable	B	S.E.	Wald statistic	df	Sig	Odds ratio
Metropolitan tendency	0.029	0.013	4.727	1	0.030	0.972
Access to utilities	-0.005	0.001	37.995	1	0.00	0.995
Family members	-0.239	0.104	5.297	1	0.021	1.270
Social participation	0.059	0.023	6.594	1	0.010	1.061
Age	0.095	0.019	276.265	1	0.00	0.909
Living costs	0.051	0.022	5.237	1	0.022	1.053
Amount of agricultural lands	0.193	0.042	21.221	1	0.00	0.825
Constant coefficient	10.887	1.718	40.162	1	0.00	53782.82

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