

Farmer's Attitude to Agricultural and Rural Development in Southwest Iran

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ABSTRACT

Agriculture is one of the most important economic sections in the most developing countries. According to the FAO's latest reports approximately 40 percent of the active economic populations all over the world are working in this section, most of them living in developing countries. This study tries to investigate the socioeconomic dimensions of agricultural development in Behbahantownship. The study was done on a descriptive-surveying method that uses field and documentary data. The aim of this study was to investigate farmers attitude of agricultural and rural development in southwest Iran. A descriptive survey design was employed in this study. The target population was N= 2800 and by the sampling population is estimated n=250 rural resident in Behbahan Township in Khuzestan province Southwest Iran. The reliability of the questionnaire was calculated using a Cronbach alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study. The reliability of the questionnaire was calculated using a Cronbach alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study. The result of research showed that the rural populations claim a relatively high satisfaction of their job and their village environment.

KEYWORDS: Agricultural development, Rural development, Iran.

1. INTRODUCTION

Rural development in general is used to denote the actions and initiatives taken to improve the standard of living in non-urban neighborhoods, countryside, and remote villages. These communities can be exemplified with a low ratio of inhabitants to open space. Agricultural activities may be prominent in this case whereas economic activities would relate to the primary sector, production of foodstuffs and raw materials. Agriculture is one of the most important economic sections in the most developing countries. According to the FAO's latest reports approximately 40 percent of the active economic population all over the world is working in this section, most of them living in developing countries. Agriculture, as shown above, is the main source of livelihood for millions of people in the world. Therefore, it is imperative to promote change and growth in this sector in order to alleviate poverty. Potential positive impacts of agricultural development include increased food production and consumption, income, and employment. Agriculture, forestry, and fisheries provide the foundation for economic development in a broader sense. Agriculture is grounded in rural areas, so that agricultural and rural sectors are interlinked to each other, in Iran (Hayati and Karbalaee, 2013). Agricultural Development generally tries to raise agricultural production and productivity and is of a technical nature. Rural development, though, by definition is oriented more toward benefiting primarily the poor. Thus, there is the fundamental distinction between pure agricultural and rural development. Rural development is a strategy to improve socio-economic status of poor. Thus, if the general definition of rural development is accepted, i.e. the improvement of the welfare of all members of the rural populations is justified. (Anriquez and Stamoulis, 2007).

1.1. LITERATURE

Agriculture is certainly a major contributor to rural development in many countries. It is one of the most important economic sectors in Iran (Ahad and Inayatullah, 2013). Over the past thirty years Iran has experienced very rapid population growth by annual average 4.2 percent, insignificant rural development and severe environmental degradation. There is evidence that these three phenomena are connected in a mutually reinforcing manner. This nexus is commonly known as a "Vicious Circle" in literature. As a developing country, Iran has 65 000 villages with about 22 million people living in rural areas. They are living under poverty line, their survive depend on agriculture, whether directly or indirectly (Golmohammadi, 2013). Beside, agricultural sector which accounts for 27% of GDP, 22.9% of employment opportunities, 82% of food supply and 35% of non-oil exports, plus considerable raw materials for industrial use dominate the Iranian rural economy (Ghambarali et al, 2013). The most recent data from the Food and Agriculture Organization of the United Nations (FAO) show that over time there has been significant progress in reducing the total number of

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undernourished people globally, and the same is true for poverty. There is evidence that agricultural growth has a high poverty reduction pay-off:

- A 1 per cent per annum increase in agricultural growth, on average, leads to a 2.7 per cent increase in income of the lowest three income defiles in developing countries (World Bank 2007; De Janvry and Sadoulet 2009).
- Investment in agriculture is 2.5 to 3 times more effective in increasing the income of the poor than is non-agricultural investment (World Bank 2007).
- Agricultural growth, as opposed to growth in general, is typically found to be the primary source of poverty reduction (Diao *et al.* 2007, 10).

Therefore, rural development contains farming activities, agricultural education and extension, marketing and such other agriculture oriented projects, also non agricultural projects for instance rural industries, local social activities, cultural activities and so on (Hayati and Karbalaee, 2013).

The most important problems related to rural and agricultural development in Iran cited by researchers are: limitations of macro-economic policies in the agricultural sector, the small size of agricultural lands and production scales, and insufficient investment in infrastructure. Kalantari *et al.* (2008) declared economic management and planning challenges. Lack of investment in tourism, lack of basic infrastructure, and limited access to agricultural production markets, are other main challenges of sustainable economic development of rural areas in Iran (Namdar and Sadighi, 2013).

Perma (2013) believed the infrastructure could be effect to agricultural development. Aspects impact the infrastructure can be defined as follows:

1. Infrastructure increases agricultural production and productivity
2. Infrastructure reduces cost of production
3. Infrastructure increases the regional value
4. Infrastructure and the social benefits
5. Infrastructure and the economies of scale
6. Infrastructure and accelerator effects
7. Infrastructure and increased welfare of producers and consumers
8. Infrastructure and reduction in price oscillation (Perma, 2013)

2.METHODOLOGY

The study was done on a descriptive-surveying method that uses field and documentary data. The aim of this study was to investigation Farmers attribute of agricultural and rural development in southwest Iran. A descriptive survey design was employed in this study. The target population was N= 2800 and by the sampling population is estimated n=250 rural resident in Behbahan Township in Khozestan province Southwest Iran. Iran lies between 25°15' and 40° 20' N latitude and between 44° 5' and 63° 6' E longitude. With an area of 16, 48,000 square kilometres, the country comprises of 99.27% of land and 0.73% of water . Only 12 % of the total land is under cultivation. The non-agricultural surface represents 53% of the total area of Iran. This province is located within 29°58'and 32°58'N latitude and 47°42'and 50°39'E longitude. Data was collected through a questionnaire. The reliability of the questionnaire was calculated using a Cronbach alpha coefficient (alpha >0.7) for different sections after conducting a pilot study. In the first stage, all variables has become to quantitative variables and by use of technique division by mean, rural area ranked, based on two factors: rural development and agricultural development. Then by use of correlation coefficient were studied the relationship between rural development and agricultural development. Step by step multiple regression analysis was used to analyze the rural development factors by use of agricultural development variables.

3. RESULTS

This section focuses on demographic information of respondents. Table 1 presents distributional pattern of respondents' age.

Table 1: Distributional pattern of respondents' age

Age (years)	Frequency	Percent	Cumulative percent
30<	16	6	6
30-60	189	75.6	81.6
>60	45	19.4	100
plural	250	100	-
Mean	49.6	-	-
Standard deviation	10.7	-	-
minimum	25	-	-
maximum	78	-	-

According to Table 1, more than 76% of the respondents were middle-aged. Also, age mean of answers were about 50 years.

According to Table 2, the educational level of respondents was in primary school level. Illiterate and primary school farmers had the highest (52.4%) and only 12.8% of farmers have post high school educations.

Table 2: Distributional pattern of respondents' Educational level

Educational level	Frequency	Percent	Cumulative percent
Illiterate	64	25.6	25.6
Primary school	67	26.8	52.4
Secondary school	39	15.6	68
High school	48	19.2	87.2
Post high school	32	12.8	100
plural	250	100	-

3.1. Access to Rural development index

Attention to Table 3, distributional pattern of respondents for access to infrastructural services.

Table 3: Distributional pattern of respondents for access to infrastructural services.

Infrastructural services	Amount of access	Infrastructural services	Amount of access
Electricity	100%	Safe water, sanitation	100%
Phone	95%	Asphalt road	85%
Gas (CNG)	64.5%	Sewage system	49.5%
Health Center	26%	Educational Services	67%

Attention to Table 3, distributional pattern of respondents' for access to infrastructural services showed that all villages had access to electricity and safe water.

In Table 4, are provided the amount and type of access to agricultural resources by local farmers.

Table 4: Distributional pattern of respondents for access to agricultural resources.

Index	Amount of access	Index	Amount of access
Per capita irrigated land (hectares)	1.9	Per capita irrigated land (hectares)	4.8
Garden capita (ha)	0.2	Livestock (goats and sheep...)	10
Livestock (cattle and buffalo...)	3	The average number of tractors per village	3.5

3.2. Food Security Index

One of the methods was used to calculate the food security index is the parameters of calories per person per day are the amount of calories in the day or in a year. In other words, calculate supply and demand for calories.

$$[X4\{X3/((1 + X5))\}]0/23[\{X1/((1 + X6))\} (1 + X2)^n] + 0/77FSI$$

X1 = the per capita supply of calories per day than the calories

X2 = annual growth rate of per capita energy supply per day

X3 = index of food products

4 X = self-sufficiency index

X5 = change in production

X6 = changes in consumption

According to medical experts, the amount of calories our body needs an adult with the age, weight, and body type can vary from 1500 to 2700. The mean body weight and calories required was not declared , thus in the region, the base was used in this study the average adult human body needs calories, 2100 calories per day maximum.

How many calories your body needs in a year.(Calories per day*365)

$$A = 2100 \times 365 = 766500 \text{ Calories in year}$$

To assess the food security index, the total product of research area and the amount of calories was calculated (table 5).

Table 5: The total product of research area and the amount of calories

Product Name	Calories per hundred grams	Calories per ton (million)	Production (tons)	Total calories production (million)
Cereals (wheat, barley and maize)	320	3.2	37247	119190.4
Rice	315	3.15	30	94.5
Bean	110	1.1	20	22
Mung	350	3.5	2	7
Dried Beans	420	4.2	20	84
frijol	445	4.45	355	1579.75
Summer crops and fruits	25	0.25	8500	2125
Date	240	2.4	2150	5160
Fish	55	0.55	1	0.55
Honey	300	3	1	3
Eggs	140	1.4	10	14
Chicken	130	1.3	99	1300
Meat	217	2.17	1000	2170
Milk	55	0.55	1800	990
Total				132740.2

The last step was to calculate the amount of calories produced in the area of research, the ability to provide the number of people or populations in the year.

$$\text{The population in one year} = \frac{\text{The amount of calories produced in a year}}{\text{many calories your body needs in a year}}$$

$$\frac{132,740,200,000}{766500} = 173177 \text{ people}$$

The result of research showed that the total production of agriculture crops could be provided food security for 173177 people in this region.

3.3. Farmer's satisfaction of socio-economic index

The result of research showed that the farmer's satisfaction of socio-economic index was relatively good (table 6).

Table 6 :Farmer's satisfaction of agricultural development index

Index	Farmer's satisfaction	Index	Farmer's satisfaction
Food security	56.46%	Income	54.18%
Employment	47.27%	Migration reduction	69.1%
Development of participation	55.88%	Environment	63.68%

Pearson correlation was used to test the relationship between food security index and other variables. According to Table 7, there are positive correlations between food security index and other variables such as: physical, educational, health, communication and finance infrastructure.

Table 7: Correlation between food security index and other variables

Variables	Correlation coefficient	sig
Physical Infrastructure	0.782**	0.028
Educational Infrastructure	0.266*	0.014
Health Infrastructure	0.689**	0.000
Communicational Infrastructure	0.254*	0.002
Finance Infrastructure	0.762**	

*Significant at 0.05 level

**Significant at 0.01 level

3.CONCLUSION

The results showed that agricultural development provided the roots of socioeconomic developments and the backgrounds for enhancing rural services such as infrastructures and educational, hygienic, organizational & communicational facilities. Agriculture also plays a significant role in making occupational opportunities for the

rural male population. Agricultural sector has also enhanced food security and caused a decrease in the number of immigrations to urban regions as well that in itself is a significant factor for sustaining the rural territories. Access to infrastructure in rural areas, southwest Iran has the appropriate condition such as: electricity, phone, gas, road, safe water and educational institute. But it seems that health services and sewage collection system do not have sufficient development in rural areas. Although the amount of available resources in agricultural production is relatively weak but the results of this research showed that the total agricultural production in this region could be lead to food security for about 170 thousand people. The result of research showed that the food security index was 96.2%. The index of food security in the region was far higher than the average in the country (82%).The result of research showed that agricultural development index especially food security indexes was significant relationship with variables such as: physical, educational, health, communication and finance infrastructure. In general it can be said that agriculture has headed the development of the rural economy and agricultural development can lead to rural development.

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