

STATUS OF IRAN'S INFRASTRUCTURE INDEX IN RURAL AREAS

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ABSTRACT – Today it has been proven that creating job opportunity to support the increase in income level is an important factor for rural development. This study investigates the socioeconomic dimensions of rural infrastructure and rural development in Iran. The study was conducted based on a descriptive surveying method that uses field and documentary data. The target population was N= 2800 and by the sampling population is estimated n=250 rural resident in Behbahan Township, located in Khuzestan Province, Southwest Iran. The reliability of the questionnaire was calculated using a Cronbach's alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study. The result of research showed that although the rural areas of Iran have been provided with infrastructure such as schools, health centres, market places, etc., today it has been proven that creating job opportunities is an important factor for rural development.

Keywords: rural residents, rural development, infrastructure index, Iran

INTRODUCTION

Rural development, in general, is used to denote the actions and initiatives taken to improve the standard of living in non-urban neighbourhoods, countryside and remote villages. These communities can be exemplified with a low ratio of inhabitants to open space. Available definitions and concepts highlight the central point that rural development is about improving the welfare and productivity of rural communities, about the scope and process of improving the quality of participation of rural people in that process, and about the structure, organization, and interactions and facilities that make this possible (Ocheni and Nwankwo, 2012). 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 many 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. 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 the socio-economic status of the poor. Thus, if the general definition of rural development is accepted, i.e. the improvement of the welfare of all members of the rural population is justified (Anriquez and Stamoulis, 2007). In Iran, development of its infrastructure in different

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geographical areas show strong differences in the process of development due to the effect of undesirable national and focused planning of the past (Fezie and Hosseinpour, 2014).

LITERATURE REVIEW

In Iran, in the 20th century it was conceptualized that establishing social services and infrastructure such as water supply, sanitation, electricity, roads and drainage, schools, health centres, market places and other infrastructure are the best way to increase rural prosperity and prevent uncontrolled rural migration to cities. However, today it has been proven that creating job opportunity and increasing the level of income are important factors for rural development. 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 an annual average of 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 below the poverty line and their survival depends on agriculture, whether directly or indirectly (Golmohammadi, 2013). Besides, the agricultural sector 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, dominating 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 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 percent per annum increase in agricultural growth, on average, leads to a 2.7 percent increase in income of the lowest three income deciles 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, p. 10).
- Therefore, rural development contains farming activities, agricultural education and extension, marketing and other agriculture oriented projects, also non-agricultural projects - for instance rural industries, local social activities, cultural activities and so on (Hayati and Karbalaee, 2013).
- Badri and Akbarian (2006) analyzed the levels of degree of development in villages of Kamyaran County in Iran. The results of this study showed that the coefficient of degree of development was different and there were a lot of differences and disparities between them.
- 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) approached the issues of economic management and planning challenges. Lack of investment in tourism, lack of basic infrastructure and limited access to agricultural production markets are the other main challenges of sustainable economic development of rural areas in Iran (Namdar and Sadighi, 2013).
- Ebrahim Zadeh et al. (2005) did a research on development and underdevelopment situation in regional urban areas of Iran and concluded that Tehran, Isfahan and Yazd provinces have the best situation while Sistan and Baluchestan, Kurdistan South Khorasan, Kermanshah and Khuzistan are the least developed provinces, respectively (Zand and Dinpna, 2013).

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METHODOLOGY

The study was based on a descriptive-surveying method that uses field and documentary data. The aim of this study was to investigate 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 the sampling population is estimated n=250 rural residents 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 1,648,195 square kilometres, the country consists of 99.27% land and 0.73% 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's alpha coefficient ($\alpha > 0.7$) for different sections after conducting a pilot study.

RESULTS

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

Table 1. *Distributional pattern of the respondents' age*

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

More than 76% of the respondents were middle-aged and the mean age of answers was about 50 years.

The educational level of respondents was generally related to primary school level. Illiterate and primary school farmers had the highest weight (52.4%) and only 12.8% of farmers have post high school educations (Table 2).

Table 2. *Distributional pattern of respondents on 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
Total	250	100	-

Table 3 shows the distributional pattern of respondents regarding their access to infrastructural services.

Table 3. *Distributional pattern of respondents regarding 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%

The distributional pattern of respondents regarding access to infrastructural services showed that all villages had access to electricity and safe water (table 3).

The amount and type of access of local farmers to agricultural resources is indicated in table 4.

Table 4. *Distributional pattern of respondents regarding 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

The result of research showed that there was a significant relationship between the agricultural development index and rural population in the 99% level. In other words, enhancing the agricultural developed index caused the enhancement of the rural population. In fact, they developed farming villages and their suitable lands could be able to attract more people in these villages.

Table 5. *Correlation between agriculture development index and other variables*

Name of index	Correlation Coefficient	r	sig
Rural population	Person	0.822**	0.000
Health Index	Person	0.689**	0.004
IT index	Person	0.367*	0.039
Educational index	Person	0.296*	0.046

**Significant in 99% level, *Significant in 95% level

There was also a significant relationship between agricultural development index and health infrastructure index in rural areas in the 99% level.

The result of research showed that there was a significant relationship between agricultural development index and IT infrastructure index in rural areas in the 95% level. In other words, enhancing the agricultural developed index caused better accessibility of rural population to information technology services.

In addition, there was a significant relationship between agricultural development index and educational infrastructure index in rural areas in the 95% level. The improvement of the agricultural development index would improve the level of educational services in rural areas.

CONCLUSION

The results showed that agricultural development provided the roots for socio-economic development and the background for enhancing rural services such as infrastructure and education, hygienic, organizational and communication facilities. Agriculture also plays a significant role in creating job opportunities for the rural male population. The agricultural sector has also enhanced food security and caused a decrease in the number of immigrants to urban regions as well and, therefore, it is a significant factor for sustaining the rural territories.

The result of research showed that the agricultural development index has a significant relationship with variables such as population, infrastructure, health, migration, food security indexes. In addition, the result of research showed that agricultural development index does not have a significant relationship with variables such as income, women and youth employment and empowerment. In general, it can be said that agriculture has headed the development of the rural economy and agricultural development can lead to rural development. Although rural areas of Iran have been provided with infrastructure such as schools, health centres, market places, and so on, today it has been proven that creating job opportunities is an important factor for rural development.

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