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The valuation of the role of the rural guiding plans in rural development: A case study of Bonab villages

Javad Hajializadeh* and Masoud Mahdavi

Sciences and Research Poranch, Islamic Azad University, Tehran, Iran.
Geography Department, Science and Research Branch, Islamic Azad University, Tehran, Iran.

Rural guiding plans are the prevalent and common projects conducted in rural areas and mostly adopted from urban development projects. They are looked upon as an important tool in developing the villages whose development seems to be essential for improving the infrastructures of the other sectors of the country. It is largely understood that performing studies to improve the production method and taking them as the basis for decision-making and planning to enhance the rural development process is of fundamental role (Mahdavi and Najafi, 2005: 22). There is a gap between the aim and programs (Saeed, 1991: 4). The rural plans are taking actions to help the villages to achieve the goals like making the development of rural areas possible, controlling the environmental conditions of the villages, providing the means to improve housing and proving the common and necessary services. This article reports the administrative effects and roles of rural guiding plan in the development of rural areas. By using numerical taxonomy method, a case study was done on 28 villages of Bonab in East Azarbaijan to show the degree of effectiveness of the rural guiding plan. 20 indices such as health, education, service and economy have been evaluated by using the latest concuss results and data statistics of yearly statistical reports. Research findings show that 17 villages enjoy facilities and 5 ones (17.85%) of semi-developed villages have access only to limited amount of facilities and at the end, 6 villages (21.42%) are among the under-developed villages deprived of facilities. The condition is in a way that in 12 out of 17 developed villages, rural guiding plan has been conducted or at least is being conducted but in none of the under- developed villages, the rural guiding plan been conducted. There is a correlation of 0.55 on the basis of Kendall's taut B, A between conducting of guiding plan and rural development degree which is a meaningful and direct correlation.

Key words: Bonab, method, guiding plan, taxonomy, rural development.

INTRODUCTION

Rural development is one of the principle indices of development. But since the development is a multidimensional process, it necessitates fundamental changes in social structures, the ideas of the folk and national institutions and also economic development acceleration, decreasing inequality and eradication of the total poverty (Asayesh, 2001: 8).

The increasing trend of migration process and evaluation of hundreds of villages of the country make it so essential to put a great deal of attention to this entity.(Reshnou, 2005: 76). Then it needs the proper patterns suitable for different societies to accelerate this trend. Different kinds of development models and planning methods could be used to enhance the trend of development. But it is better to choose the model or the plan to accelerate the development trend scientifically and by study (Asayesh, 2001: 1), since in the process of preparing the rural plans, consultant engineers, organizations and related institutes take up different attitudes toward it, and act according to their testes (Asayesh, 2007: 181). With regard to the point that if the rural spaces were not developed according to the villagers needs, the national development will not be possible and the difference between the city and village will get larger, remarkably (Shakour, 2007: 120). At last by assessing and evaluating the conducted plans and projects, the advantages and disadvantages are known and the problems can be removed and in case plan like

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*Corresponding author. E-mail: j.h.alizadeh2010@gmail.com.

guiding plan has been conducted or is being conducted, measures can be taken to improve the preparation and performance methods (Sheeh, 1991).

Rural guiding plan is one of several plans (rural improvement plan, organizing plan and development plan) that a large organization called Housing Foundation has the responsibility of preparing and conducting in Iran. Guiding plan is the plan to restore the life and direct the village economically, socially and physically (Asayesh, 2001: 78). And the goal of conducting such a plan is to develop the villages physically to put in order all the activities which at last should lead to village improvement, decrease in migration and develop larger rural areas to settle industries and service networks and putting the husbandry and animal husbandry in order, and strengthening the non-husbandry jobs in rural areas (Asayesh, 2001: 78). Of course this plan follows the goals such flourishing the village with regard to economical, social and cultural conditions of the village and providing the facilities equally and guiding the physical conditions of the villages and even moving the technology to villages and changing and improving the life pattern of the inhabitants.

In general, it can be stated that even though planning, decision-making and conducting the devised plans play a clear and important role in development especially in rural development, the reality it that if the feasibility strength the result of these programs are not studied and analyzed scientifically and critically, they may not achieve the goals intended by the organizers.

With regard to the point that assessing and evaluating as an important part of planning does not have a long history, the evaluation in this definition because of the emphasis on planning and development and spread of quantitative methods in the years after world war II that is in 1960s and 1970, entered in the fields of planning and new literature was formed in the evaluation methods (Natural event research centre 1388: 4). So this research is to study those villages having guiding plan (conducted or being conducted) and those villages not having guiding plan from different indices which guiding plan could achieve as its goals for the villages, and by determining the degree of their development achieve it and or the basis of the findings obtained by analyzing the data, this study gives the proper suggestions to improve the guiding plan to further the development.

METHODOLOGY AND STATISTICAL POPULATION

A descriptive and analyzed method has been used in this study. The populations of this study are all the villages of Bonab (28 villages). First by using documental method the intended indices with regard to goals taken into accounts in the rural guiding plans were selected.

Then by field process, the necessary data were collected from Iran statistics center, East Azarbyjan management and planning organization, Bonab government office and Bonab Housing foundation. In this study, latest statistics of Iran statistics center has

been used, which includes, years 2006, 2009 and 2010 with regard to the fact that there are different methods to grade the degree of development (Feizi, 2004: 30).

In this study, numerical taxonomy method from taxonomy analysis methods has been used. This is used to determine the ranks of the regions (Egbali, 2007; Azadeh, 2007).

This method was purposed by M. Anderson in 1763 for the first time and was suggested by professor Hellwing, a member of Economic high school, as a tool to rank the degree of international development in UNESCO in 1988 (Asayesh and Estelaji, 2003: 154).

Numerical taxonomy method does the ranking of the regions through the following stages:

Stage 1: Developing the data matrix by selecting the regions for study and determining the indices used and finding the mean and standard deviation of each column by using the following formula.

$$\bar{x}_i = \frac{\sum x_i}{N}$$

$$s_i = \sqrt{\frac{\sum (x_i - \bar{x})^2}{N}}$$

(1)

Stage 2: Standardizing the data matrix since it is possible that each of the indices enjoys different units, so to remove the various units and replacing them with the common unit, the following formula (z) is used to standardize the matrix, and the largest number of each column is written at the bottom of the column as the ideal number.

$$z = \frac{x_i - \bar{x}_i}{s_i}$$

(2)

Stage 3: Calculating the distance between the villages under study, in this stage, by having the standard matrix the distance of each region from others with regard to the assigned indices can be calculated (Mir Ghafouri and Sadeghi, 2008: 46). The numbers of first column are subtracted from the numbers of the second column and then from those of third column and to the end, and then the obtained number are empowered by 2 horizontally and added up and take and the square is taken to get the distance of the village from the other one.

Stage 4: Determining the smallest distance in a way that the shortest distance from the matrix is known. And then the average and standard deviation of the village are obtained and the same is done for the smallest distance too.

$$d \pm \bar{d} \pm 2sd \qquad \bar{d} = \frac{\sum d_i}{N}$$

(3)

Stage 5: Determining the homogeneous villages that is, the villages which enjoy a large distance from each other, either very developed or underdeveloped, are omitted from the study. Of course in this study, there was no village to be omitted.

Stage 6: Determining the model of development by finding the distance of each village from the ideal one calculated in standardized matrix. In this stage the large distance from the ideal number shows deprivation and being under-developed and the small distance from the ideal number reflects the development.

Stage 7: Calculating the city development degree which is obtained by using the following formula by showing the rural development degree with Fi.

$$Cio = \sqrt{\sum (d_i - d_c)^2}$$

$$Co = Cio + 2Sio \qquad (4)$$

$$S_{io} = \sqrt{\frac{\sum (Cio - \overline{\overline{Cio}})^2}{N}}$$

$$Sio = \sqrt{\frac{97/741}{28}} = \sqrt{349/075} = 1/86$$

$$Co = 9/47 + 2(1/86) = 9/47 + 3/72 \qquad (5)$$

$$Co = 13/19$$

$$fi = \frac{cio}{co} = \frac{\text{Development model}}{\text{The high limit of development}} \qquad (6)$$

The development degree is generally between 0 and 1. (0<fi<1). As the value closer to o, it reflects the village is more developed and as the value closer to 1, it shows under development of the village.

1. From 0 and 0.775 are developed and having the facilities,
2. From 0.775 to 0.884 are semi-developed and having restricted facilities,
3. From 0.884 to 1 are under-developed and deprived of the facilities.

It is necessary to mention that the validity of taxonomy method and determining its ranges by different ways of this method has been emphasized by its developers in different research projects.

Later, to define the extent of relationship between performing guiding plans and development of underdevelopment and to define their correlation, Kendall's tb&ta method is used. Since the quantitative indices have been changed into qualitative indicia, Pearson method can not be used, and the best method is Kendall's method which is done with regard to Table 3 and the following formula.

$$T_a = \frac{Ns - Nd}{T}$$

$$Tb = \frac{Ns - Nd}{\sqrt{(N_s + N_d + T_y)(N_s + N_d + T_x)}}$$

$$T = \frac{N}{2}(N-1)$$

$$N_d = (3,1) = 5(0+0+1+0) = 5$$

$$(3,2) = 4(0+0) = 0$$

$$(2,1) = 2(1+0) = 2$$

$$(2,6) = 0(0) = 0$$

$$N_d = 5+0+2+0 = 7$$

$$N_s = (1,1) = 10(0+0+4+6) = 100$$

$$(1,2) = 1(0+6) = 6$$

$$(2,1) = 2(4+6) = 20$$

$$(2,2) = 0(6) = 0$$

$$N_s = 100+6+20+0 = 126$$

$$T = \frac{N}{2}(N-1) = \frac{28}{2} \times (28-1) = 14 \times 27 = 378$$

$$T_a = \frac{N_s - N_d}{T} = \frac{126-7}{378} = \frac{119}{378} = 0/31$$

Kendall's is continued with Tb method

$$T_y = (x_1, y_1) \Rightarrow (1,1) + (2,1) + (1,2) + (2,2) + (1,3) + (2,3)$$
$$= 10(2+5) + 2 \times 5 + 1(0+4) + (0 \times 4) + 0(0+6) = 70 + 10 + 4 = 84$$
$$T_y = 84$$

$$T_x = (x_i, y_i) \Rightarrow (1,1) + (1,2) + (2,1) + (2,2) + (3,1) + (3,2)$$
$$= 10(1+0) + 1 \times 0 + 2(0+0) + 0 \times 0 + 5(4+6) + 4 \times 6 = 10 + 50 + 24 = 84$$
$$T_x = 84$$

$$Tb = \frac{N_s - N_d}{\sqrt{(N_s + N_d + T_y)(N_s + N_d + T_x)}} = \frac{126-7}{\sqrt{(126+7+84)(126+7+84)}} = \frac{119}{\sqrt{217+217}} = \frac{119}{217} = 0/55$$

Conclusions

After collecting the data, the following results were obtained by numerical taxonomy method.

The status of Bonab 28 villages against the ideal number was known with regard to Table 1. In the same table, by using the formula $F_i = \frac{Cio}{Co}$, the development degree of villages was determined and the ranking was done on the basis of the obtained degrees.

By developing Table 2, the villages were divided into three groups of developed and having the facilities, semi-developed and having restricted facilities and under developed and deprived of facilities. 17 out of 28 village under study (60.71%) were in the group of developed and having facility, 5 villages (21.42%) were among the under-developed villages deprived of facilities. Again according to the data collected in Table 2, guiding plan has been prepared for 25 villages of Bonab but unfortunately not all of them have been materialized and only 11 one has been completed and in two villages it is under way, and for the other 12 villages the administrative steps have not been taken yet, and there is no guiding plan for three villages at all. The result obtained through this study is that all the villages except one village which guiding plan has been conducted or being conducted are among the developed villages and having the facilities. Of course, one village with guiding plan has been conducted and four villages whose guiding

Table 1. Development model column forming method

Village	$(D_{i1}-D_{o1})^2$	$(D_{i2}-D_{o2})^2$	$(D_{i3}-D_{o3})^2$	$(D_{i4}-D_{o4})^2$	$(D_{i5}-D_{o5})^2$	$(D_{i6}-D_{o6})^2$	$(D_{i7}-D_{o7})^2$	$(D_{i8}-D_{o8})^2$	$(D_{i9}-D_{o9})^2$	$(D_{i10}-D_{o10})^2$	$(D_{i11}-D_{o11})^2$	$(D_{i12}-D_{o12})^2$	$(D_{i13}-D_{o13})^2$	$(D_{i14}-D_{o14})^2$	$(D_{i15}-D_{o15})^2$	$(D_{i16}-D_{o16})^2$	$\sqrt{\sum (D_i - D_c)^2}$	$f_i = c^{io}:$ c_o	Rank
D0	1.5	2.6	2.5	1.5	1.9	1.5	1.9	3.3	3.7	1.7	2.9	1.0	1.1	0.8	1.1	2.4	-	-	-
Chelaghaye	0	4.5	4.2	0	2.8	0	0.96	6.7	15.9	5.3	11	4.1	0	0	0	8.5	8.36	0.633	9
Dizaj Parvaneh	4.4	4.5	9.5	0	6.3	5.1	8	15.1	15.9	5.3	11	4.1	0	0	0	8.5	9.69	0.734	16
Khousheh Mehr	0	4.5	0	4.5	0	0	0.96	6.7	0	5.3	0	0	0	0	0	0	4.80	0.364	1
Tazeh kand khousheh mehr	4.4	4.5	9.5	0	6.3	5.1	0.96	15.1	0	5.3	11	0	2.4	4.2	2.4	8.5	8.14	0.617	7
Yenki kand khousheh Mehr	4.4	4.5	9.5	4.5	6.3	5.1	0.96	15.1	15.9	5.3	11	4.1	2.4	0	2.4	8.5	9.60	0.727	15
Shorgol	4.4	4.5	9.5	4.5	6.3	5.1	3.5	15.1	15.9	5.3	11	0	2.4	0	2.4	8.5	10.24	0.776	8
Gheymas khan	4.4	9	9.5	4.5	11.2	5.1	3.5	15.1	15.9	5.3	11	4.1	5.7	4.2	5.9	8.5	12.17	0.922	27
Ghara zaki	4.4	9	9.5	4.5	11.2	5.1	3.5	15.1	15.9	5.3	11	4.1	5.7	4.2	5.9	8.5	12.17	0.922	26
Savar	4.4	9	9.5	4.5	11.2	5.1	3.5	15.1	15.9	5.3	11	4.1	5.7	4.2	5.9	8.5	12.17	0.922	25
Totakhaneh	4.4	9	9.5	4.5	2.8	5.1	3.5	15.1	15.9	5.3	11	4.1	5.7	4.2	5.9	8.5	11.82	0.896	24
Algho	4.4	4.5	9.5	4.5	6.3	5.1	0.96	15.1	15.9	5.3	11	4.1	2.4	0	2.4	8.5	10.52	0.798	21
Dosh	4.4	4.5	9.5	4.5	6.3	5.1	8	15.1	15.9	0	11	0	5.7	4.2	5.9	8.5	10.39	0.788	20
Rousht-e bozorg	0	4.5	4.2	0	2.8	0	0.96	6.7	15.9	5.3	11	0	0	0	0	8.5	7.22	0.548	4
Rousht-e kouchak	4.4	4.5	9.5	4.5	6.3	5.1	8	15.1	15.9	5.3	11	0	5.7	0	5.9	0	10.28	0.779	19
Zavosht	0	4.5	0	00	0	0	0.96	6.7	15.9	5.3	11	4.1	0	0	0	8.5	7.72	0.585	5
Chopoghlou	0	4.5	4.2	0	0	0	0.96	6.7	15.9	5.3	11	4.1	0	0	0	8.5	8.31	0.63	8
Haji mosaiyeb	4.4	9	9.5	4.5	11.2	5.1	8	15.1	15.9	5.3	11	0	5.7	4.2	5.9	8.5	12.18	0.923	28
Ghara gheshlagh	4.4	4.5	9.5	4.5	6.3	5.1	8	26.9	15.9	5.3	11	4.1	2.4	4.2	2.4	8.5	11.56	0.876	22
Khaneh bargh-e hadim	4.4	4.5	9.5	4.5	2.8	5.1	8	15.1	15.9	5.3	11	4.1	0	4.2	0	8.5	11.74	0.89	23
Khalilvand	4.4	4.5	9.5	4.5	6.3	5.1	3.6	15.1	15.9	0	11	0	2.4	0.2	2.4	8.5	9.81	0.744	17
Alikhajeh	4.4	4.5	4.2	4.5	6.3	1.2	3.6	15.1	15.9	0	11	0	0.7	0.2	0.7		9.11	0.691	13
Akhound gheshlagh	4.4	4.5	9.5	4.5	0	0	0	6.7	15.9	5.3	11	4.1	0	0.2	0	8.5	8.74	0.622	11
Ghara chopough	0	0	0	0	0	0	0.96	6.7	15.9	0	11	4.1	0	0.2	0	8.5	6.71	0.509	2
Khaneh bargh-e jaded	0	4.5	1	0	2.8	0	0.96	0	15.9	5.3	11	0	2.4	0.2	2.4	8.5	6.81	0.516	3
Zavaragh	0	4.5	4.2	0	2.8	1.2	0.96	6.7	15.9	5.3	11	0	0.7	0	0.7	0	7.92	0.601	6
Kouta mehr	4.4	4.5	9.5	4.5	2.8	5.1	8	15.1	15.9	5.3	11	4.1	2.4	0	2.4	8.5	9.34	0.708	14
Yenki kand Khaneh bargh	4.4	4.5	9.5	4.5	2.8	5.1	8	0.71	15.9	5.3	11	4.1	2.4	4.2	2.4	0	9.04	0.685	12

Table 1. Continued.

Gheshlagh Khaneh bargh	4.4	4.5	9.5	4.5	2.8	5.1	8	15.1	15.9	0	0	0	2.4	4.2	2.4	8.5	8.64	0.655	10
Cio	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.47	-	-
So	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.86	-	-

Table 2. Ranking and development of the villages of Bonab in comparison to condition of rural guiding plan performance.

Developed villages having facilities				Semi-developed villages having refracted facilities				Under developed villages deprive of facilities			
Rank	Village	Degree	Guiding plan performance condition	Rank	Village	Degree	Guiding plan performance condition	Rank	Village	Degree	Guiding plan Performance condition
1	Khousheh Mehr	0.364	□	18	Shorgol	0.776	△	23	Khaneh bargh-e- ghadim	0.744	△
2	Ghara chopough	0.506	□	19	Rousht-e kouchak	0.779	□	24	Totakhaneh	0.896	△
3	Khaneh bargh-e-jaded	0.516	□	20	Dosh	0.788	△	25	Savar	0.922	△
4	Rousht-e bozorg	0.548	□	21	Algho	0.798	△	26	Ghara zaki	0.922	∗
5	Zavosht	0.585	□	22	Ghara gheshlagh	0.876	△	27	Gheymas khan	0.922	∗
6	Zavaragh	0.601	○					28	Haji mosaiyeb	0.932	∗
7	Tazeh kand khousheh mehr	0.617	△								
8	Chopoghlou	0.630	□								
9	Chelaghaye	0.633	□								
10	Gheshlagh Khaneh bargh	0.655	△								
11	Akhound gheshlagh	0.622	□								
12	Yenki kand Khaneh bargh	0.685	△								
13	Alikhajeh	0.691	□								
14	Kouta mehr	0.708	△								
15	Yenki kand Khousheh Mehr	0.727	□								
16	Dizaj Parvaneh	0.734	△								
17	Khalilvand	0.744	○								

Table 2 continued.

No	17	Perfor med no	10	No	5	Performed no	1			6	Perform ed no	1
%	60.71	Under way no	2	%	17.85	Under way no	-	No %	21.42		Under way no	-
		Not perfor med no	5			Not performed no	4				Not perform ed no	5

Performed □, Being performed ○, Prepared but not performed △, Not prepared and not performed ✱

Table 3. The matrix of the relationship of development of level villages of Bonab with the rural guiding plan performances development level.

The extent of performing	Development level			
	Developed	Semi developed	Under-developed	Total
Performed	10	1	0	11
Being performed	2	0	0	2
Not performed	5	4		15
Total	17	5	6	28

plans has been prepared but not conducted are among the semi-developed villages with restricted facilities and at last in all the 6 underdeveloped villages and deprived of facilities, no guiding plans have been conducted.

In short, it can be stated that there is meaningful relationship between conducting the guiding plan and development degree of the villages of Bonab. And the role of conducting the rural guiding plan in development process of the villages of Bonab can be shown by using Kendall's correlation method as 0.55 which reflects a direct correlation between the development of the villages of Bonab and the extent of conducting the guiding plan. It must be mentioned that with regard to the goal stated about the preparation and conducting the rural guiding plan, it can not be claimed that evaluation verifies achievement of all the goals since only some indices such as migration, the income per capita, employment and, ...etc., can be the subject for other studies to further evaluate the extent of success of guiding plans.

Further proposals

Today, the rural development project has brilliant results from structural, economical and environ-mental point of view, especially for the countries, which in their national development process view the villages as an important and infrastructural part and stress the strengthening of the develop-mental projects, so one of the method is to strengthen the degree and extent of their success.

It is suggested that more should be done in the field of evaluating the plans performed or underway in the villages, and it can be claimed that the plans lack assessing and evaluations which are themselves an essential part of guiding plans. And even the Housing Foundations in cities and provinces are ignorant of these. Of course some haphazard works have been done which never enjoy a complete body required, (Natural events research center 2002: 10). Of course the evaluation done by housing foundation of Islamic Revolution of Iran by the little assessing the administrative effects of rural guide plans) is of great value as for the start. And this assessment is necessary in all provinces and even the cities. Today there is almost no clear feedback about the success or failure of the plans, if there is any, the drawbacks of the plan have identified but not removed.

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