RESEARCH ARTICLE

ASSESSMENT OF CRISIS MANAGEMENT IN RURAL SETTLEMENTS (CASE STUDY OF RURAL NEW CASTLE)

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ARTICLE INFO	ABSTRACT
	Natural hazards are a concern for those involved in planning. The village houses are of the most vulnerable areas of the country due to the type of structural materials and structures. Thus, the importance of proper planning is essential to reduce vulnerability to natural hazards. Considering the fact that Iran is among the ten most disaster-having countries in the world in terms of topography and position, poor rural planning and implementation have caused irreparable damages on Iran's economy so far. Therefore, this study assesses the housing crisis management in rural areas and obtains executive priorities for proposed solutions using the Analytical Hierarchy Process AHP. Finally, in order to identify priorities for action, the average ranks model is used. The results indicate that, in order to improve the present situation of rural residential applications in terms of decreasing the harms caused by crisis, renewing old buildings, supervision by active organizations in urban construction, especially by the residential institute, increasing the economic power of old building inhabitants, mandating the use of lightweight materials and promoting the culture of style creation and raising inhabitants' awareness of the use of durable materials, are the most significant the solutions that are of top priorities for action.

INTRODUCTION

Burnout of old buildings in rural areas can be caused by numerous and diverse disorders which affect social and physical living conditions and quality of social life in these areas. The vulnerability of the old texture suggests that these areas suffer from ta variety of disorders exhaustion and that in practice result in their underdevelopment and in some cases, they have led to the evacuation of villages. Extreme physical exhaustion, narrow streets and village roads and lack of proper access to communication, lack of proper infrastructure, high levels of poverty and deprivation, the use of inappropriate materials and weak structures, high levels of vulnerability, high growth of migration and the sharp decline in rural population, high levels of burnout for buildings in villages, the low value of ground and the lack of strength in rural housing and ignoring construction principles and technical standards in these areas have increased the amount of damage, and we practically face significant losses in rural areas.

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About 80% of rural dwellings do not have the ability to withstand natural disasters, and 100 percent of villages have been destroyed for that very reason, which itself can be alarming for rural planning.

Query statement

Increasing rural to urban migration during the years 1976 to 2006, as the fact that the majority of villages are located within the high-risk areas in the country, the importance of crisis and risk management for villages against natural disaster is under focus. With all the knowledge and equipment upgrades and human capabilities in prevention and preparedness and Dealing with accidents and natural disasters, accidents that occur sequentially indicate the continuous and permanent weakness of man against God's power, and it somehow challenges the human ability to control crisis and perform post-crisis reconstruction and normalization.

Research hypotheses

1. It seems that rural crisis management can reduce the amount of rural community damage.

2. Crisis management in the village Ghale-No will lead to population stabilization.

MATERIALS AND METHODS

The research goal of this dissertation is of fundamental and applied type and its Methodology is descriptive and by case and the analytical descriptive method was used as the analysis method. In the present study, because of the nature of the theoretical-applied discussions, the Document study and field study methods are used. Thus, the techniques which are used are different.

Basic Concepts

Crisis

Crisis has various definitions some of which are mentioned in the present article: Larry Smith, president of the Institute for Crisis located in Kentucky has provided definition that is not very precise: "A major disturbance of the organization which gets extensive media coverage; public curiosity about this subject will affect the normal activities and it can also affect the organization politically, legally, financially and governmentally (Chuck Guthrie, Parsaiyan, 2010, page 6).
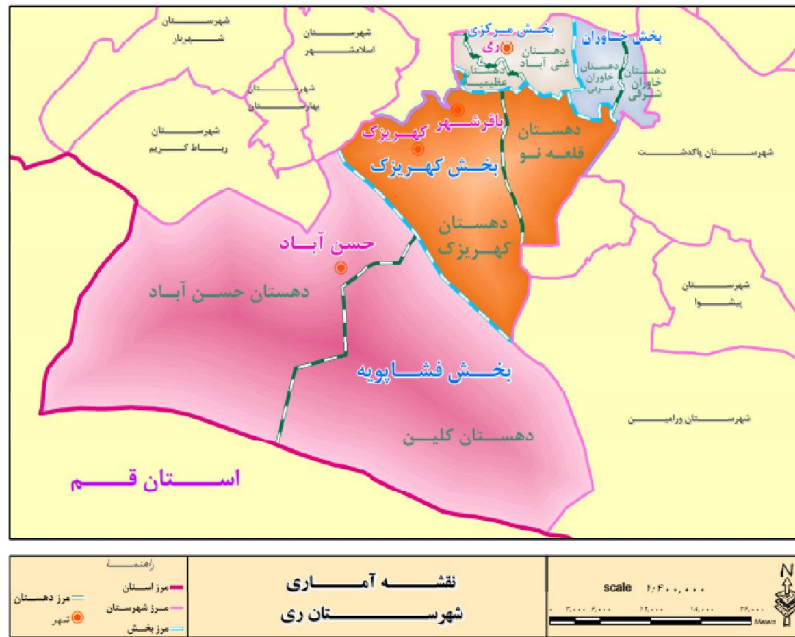
Source: Rey city's government

Figure 1. The city of Rey's position in the province of Tehran
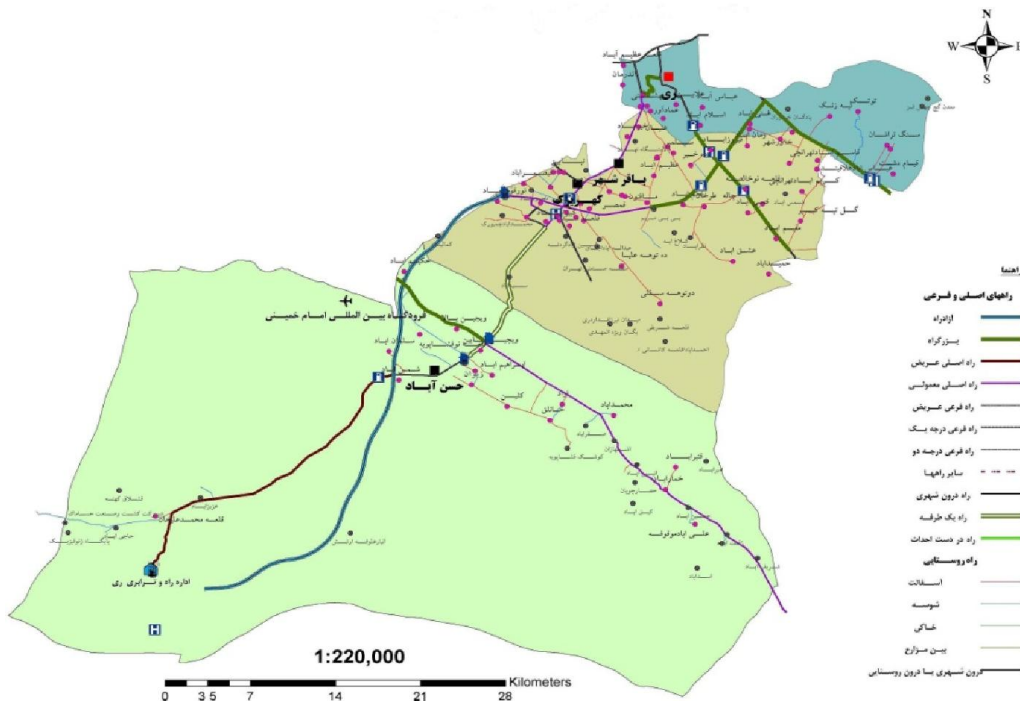
Source: Rey city's government

Figure 2. The sample villages

Crisis Management

The definition of crisis management

"The process of planning by authorities that, By observing and analyzing in an integrated, comprehensive and coordinated manner, attempt to prevent crisis using existing tools Or, in the event of crisis, attempt to increase its effects, prepare, help fast, and improve the condition in order to reach the normal levels; or there is a type of preparation in the industry against emergencies which require a special centered kind of management called crisis management which is in accordance to the existing conditions in each industrial unit in order to arrange objectives, policies, strategies, tactics and executive solutions." (Toosi, 2006. Page 14)

Village Ghale-No

The village is located 20 km south of Rey and is along the Varamin Road and one of the major areas of agricultural production, including wheat and barley. Ghale-No district in southwest of Rey is of talent-rich areas in various fields such as industry and agriculture, As the region's industrial field plays a significant role in the local economy, benefiting from the industrial towns of Eshghabad and Vali Asr. Ghale-No has made good economic progress in the agricultural section over the past years with a share of at least 55 tons of wheat which consists half of the wheat production of Rey as well as other sections such as livestock, and poultry growing and slaughter, etc. Ghale-No district has a total of 15 villages and 29,072 people in 7,582 households. Firoozabad is its most populous village with 8699 inhabitants and its less populous village is Ali Abad with 9 inhabitants.

Identification and determination of the crisis degree in terms of all environmental factors is considered as an important step in the process of planning and the key to achieve quantity development and rural construction. Based on that, a model known as the Analytic Hierarchy Process (AHP) is proposed in this thesis after providing a general introduction of the natural environment and the socio-economic and cultural characteristics of the study area (district of Ghale-No). Finally, using this scientific method and after determining the level of strength of the crisis in the natural, economic and social dimensions, upon classification of rural areas into the three groups: stable, semi-stable and unstable, Suggestions about crisis decrease and stability in the region are provided.

Because of unawareness or natural, economic and social requirements, Not only does Residing of human communities (mostly rural) in critical or unstable biological centers exposes them to physical risks posed by natural disasters and particular socio-economic disorders such as poverty, unemployment, migration and lack of appropriate services, But it sometimes has also taken away their historical validity and economic value for continuity in the establishment. Since the role and influence of various natural and industrial parameters Associated with the level and quality of the relationship and exploitation of natural resources get stronger or weaker as time passes and considering the dynamics of rural communities (Saeedi, 1996, page 3), The sites may also gradually lose their credibility And change due to human activity or undergo degeneration (Dolfus, 1994, p. 20). Thus, in the process of rural development, prioritization of rural areas in terms of the degree of influence by environmental crisis is of particular importance, because Negative feedback due to ignoring that issue results in the waste of economic and human resources and in some cases fomenting instability or aggravating existing problems, As proper and on-time crisis management increases the possibility of achieving greater stability. Accordingly, after providing a brief understanding of the natural and human structure of the study area, we try to determine, define and calibrate the (instability) crisis in 32 rural areas districts in Ghale-No with the help of the model AHP (Analytic Hierarchy Process) and the use of a set of 10 natural, economic and social criteria or measures and weighting each one of them, and finally introduce strategies to achieve greater stability and crisis removal from stable and unstable centers.

Analytic Hierarchy Process (AHP)

Since the early '80s what scholars in management science have paid special attention to is Taking more than one criterion or options for each question and considering qualitative criteria effective in decision making as well as the quantitative measures. Thus, the scholar named Thomas L. hour in the 80s, AHP developed a multi-criteria decision making branch In order to systematize decision making In case of a combination of qualitative and quantitative criteria when managers are interested in incorporating their personal opinions and experiences in decision making (Ahmadi, 2001, p. 5). This method is practically used in many applications such as programming related to power stations, energy policies, selection of unit locations and so on (Zysta Consulting Engineers, 1994, p 2).

Economically critical points

In the author's opinion, economic crisis can be considered as the cause of social and cultural crisis; that is more documented especially in our country's rural areas where many problems are rooted in the economy. Nonetheless, due to lack of sufficient statistics (documented statistics) about different economic indicators in the area level, we had to use the two following indicators: unemployment rate, and service level, in order to prioritize economic crisis; the analysis of those indicators somehow shows the economic power of rural centers and it expresses the fact that critical points play a minor role in the overall performance. The continuity of poles orientation in growth, the unbalanced relationship between cities and villages, the lack of sufficient investment in rural areas due to lack of motivation or excuse of the lack of economic return and also weaknesses in socio-economic infrastructures in rural districts of the country, including Ghale-No are of the crisis-creating factors that have caused the high rate of employment due to the lack or absence of the required service and industrial centers, lack of support for rural producers, and so on (Ghaffari, 2002, p 57).

The rural areas Ghale-No, Chaltorkhan, Qomi Abad, Eshghabad, Deh Kheir, Taleb Abad, are stable and crisis-free areas; and the rural areas Firooz Abad, Mahmood Abad, Zaman Abad, Mahmood Abad, Gol Tapeh Kabir, Ghasem Abad, Abbas Abad, Karim Abad, Najm Abad, Moghim Abad are semi-critical or semi-stable rural centers; and the rural areas Hamid Abad And Kooreh Farangi are semi-stable and

Table 1. Prioritizing critical rural areas from a natural viewpoint

Rural Areas	Flood: 0.15 Significance Coefficient		Landslide: 0.27 Significance Coefficient		Rock Downfall: 0.2 Significance Coefficient		Earthquake: 0.11 Significance Coefficient		Slope: 0.09 Significance Coefficient		
	S	AHP	S	AHP	S	AHP	S	AHP	S	AHP	
Ghale-No	2	0.3	2	0.54	2	0.4	2	0.22	8	0/72	2/18
Chaltar Khan	2	0.3	2	0.54	2	0.4	2	0.22	5	0/72	2/18
Qomi Abad	5	0.75	2	0.54	2	0.4	5	0.55	5	0/25	2/69
Eshgh Abad	5	0.75	2	0.54	2	0.4	5	0.55	5	0/72	2/96
Deh Kheir	5	0.75	2	0.54	2	0.4	5	0.55	5	0/72	2/96
Taleb Abad	2	0.3	5	1.35	2	0.4	2	0.55	5	0/72	2/99
Firooz Abad	5	0.75	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Zaman Abad	5	0.75	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Mahmood Abad	5	0.75	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Gol Tappeh Kabi	5	0.75	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Ghasem Abad Tehranchi	10	1.5	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Abbas Abad Alaghehmand	10	1.5	2	0.54	2	0.4	5	0.55	5	0/9	3/14
Karim Abad Tehranchi	10	1.5	5	1.35	2	0.4	5	0.55	5	0/9	3/14
Najm Abad	10	1.5	2	0.54	2	0.4	5	0.55	5	0/18	3/17
Moghim Abad	5	0.75	5	1.35	2	22	2	0.55	2	0/9	3/61
Kooreh Farangi	10	1.5	2	0.54	2	0.4	5	0.55	5	0/72	3/71
Hamid Abad	2	0.3	5	1.35	5	1	5	0.55	5	0/9	1/4
Hasan Abad Ghanat Koochak	5	0.75	2	0.54	10	2	5	0.55	5	0/45	4/21
Ali Abad Gheisarieh	2	0.75	2	0.54	10	2	5	0.55	5	0/9	4/29
Ghale Darvish	5	0.75	5	1.35	5	1	5	0.55	5	0/72	4/37
Nazar Abad	5	1.5	5	1.35	5	1	5	0.55	5	0/72	4/37

Table 2. The prioritization table of economically critical rural areas

Rural areas	Unemployment rate 0.07 Significance coefficient		Services 0.02 Significance coefficient		total points
	S	AHP	AHP	S	
Ghale-No	2	0/14	0/1	0/002	0/14
Chaltar Khan	2	0/14	0/1	0/002	0/14
Qomi Abad	2	0/14	1	0/02	0/16
Eshgh Abad	2	0/14	4	0/08	0/22
Deh Kheir	2	0/14	4	0/08	0/22
Taleb Abad	2	0/14	4	0/08	0/22
Firooz Abad	2	0/14	7	0/14	0/28
Zaman Abad	4	0/28	1	0/02	0/3
Mahmood Abad	2	0/14	10	0/2	0/34
Gol Tappeh Kabi	2	0/14	10	0/2	0/34
Ghasem Abad Tehranchi	4	0/14	4	0/08	0/34
Abbas Abad Alaghehmand	4	0/28	4	0/08	0/36
Karim Abad Tehranchi	4	0/28	4	0/08	0/36
Najm Abad	4	0/28	4	0/08	0/36
Moghim Abad	4	0/28	4	0/08	0/36
Kooreh Farangi	4	0/28	7	0/14	0/42
Hamid Abad	4	0/28	7	0/14	0/42
Hasan Abad Ghanat Koochak	4	0/28	7	0/14	0/42
Ali Abad Gheisarieh	4	0/28	7	0/14	0/42
Ghale Darvish	4	0/28	7	0/14	0/42
Nazar Abad	4	0/28	7	0/14	0/42
Shams Abad	4	0/28	7	0/14	0/42

semi-critical; and Hasan Abad, Nazar Abad, Ali Abad, And Ghale Darvish are unstable and critical rural areas.

Socially critical areas

The complete identification of the social dimensions and issues especially in rural communities is not so simple due to its topic complication and essence, and as a result, the rural formation of the area complicates the issue even more sometimes by getting absorbed into the rural society and sometimes by being located in the suburbs of Tehran, and that causes many problems for this level of consideration. Nevertheless, among the various social indicators each of which can somehow indicate the level of lag and crisis in rural areas, the three factors population, the rate of growth, and primary education are selected as social indicators for crisis.

In fact, sending migrators, negative growth rate of the population and also lack of primary education which itself is caused by economical-cultural privation, are considered as social crisis indicators; so rural areas with large populations, positive growth rates and higher primary education statistics have higher stability (or less crisis) levels than other areas do. And the hierarchical position of each one of these areas is determined by the AHP approach in this field of crisis. Therefore, considering personal experiences, expert judgments and assuming that:

$x<3$ indicates crisis-free or socially stable villages,
$0.3<x<0.5$ indicates socially semi-critical or semi-stable villages,
And $x>5$ indicates socially critical or unstable villages,

Table 3. Prioritization of the socially critical areas of the rural district Ghale-No

Rural areas	Population 0.05 Significance Coefficient		Growth rate 0.03 Significance Coefficient		Primary education 0.02 Significance Coefficient		total points
	AHP	S	AHP	S	AHP	S	
Ghale-No	1	0/05	1	0/03	6	0/12	0/2
Talen Abad	3	0/15	1	0/03	4	0/08	0/26
Zaman Abad	3	0/15	1	0/03	6	0/12	0/3
Firooz Abad	5	0/25	1	0/03	4	0/08	0/36
Mahmood Abad	3	0/15	1	0/03	10	0/2	0/38
Karim Abad	5	0/25	1	0/03	6	0/12	0/4
Abbas Abad	5	0/25	3	0/09	4	0/08	0/42
Ghasem Abad	5	0/25	2	0/03	8	0/16	0/44
Gol Tappeh	5	0/25	1	0/03	8	0/16	0/44
Eshgh Abad	5	0/25	1	0/03	8	0/16	0/44
Deh Kheir	5	0/25	3	0/09	8	0/16	0/5
Chaltor Khan	8	0/4	3	0/09	4	0/16	0/57
Mahmood Abad					8	0/16	0/58
Najm Abad					8	0/16	0/65
Moghim Abad					8	0/16	0/65
Kooreh Farangi					8	0/16	0/65
Hamid Abad					10	0/2	0/69
Hasan Abad Ghanat					6	0/12	0/7
Alai Abad Gheisarieh					4	0/08	0/72
Ghale Darvish					8	0/16	0/74
Nazar Abad					8	0/16	0/74
Shams Abad					10	0/2	0/75

Table 4. Prioritization of rural areas in terms of crisis (instability) levels

Stable (crisis-free)		Semi-stable (semi-critical)		Unstable (critical)	
Rural area	Total points	Rural area	Total points	Rural area	Total points
Ghale-No	2/52	Eshgh Abad	4/11	Hamid Abad	7/16
Firooz Abad	2/58	Dej Kheir	4/17	Ali Abad	7/18
Mahmood Abad	3/41	Gol Tappeh	4/36	Nazar Abad	7/29
Karim Abad	3/42	Zaman Abad	4/30	Shams Abad	8/32
Abbas Abad	3/82	Najm Abad	4/94	Moghim Abad	8/87
Ghasem Abad	3/88			Hasan Abad	8/98

As you can see in the table 3, the rural areas Ghale-No And Taleb Abad are stable and crisis-free areas, the rural areas Eshgh Abad, Deh Kheir, Firooz Abad, Mahmood Abad, Zaman Abad, Gol Tappeh Kabi, Ghasem Abad, Abbas Abad, Karim Abad are semi-critical or semi-stable rural areas; and the rural areas Hamif Abad, Kooreh Farangi, Najm Abad, Chaltorkhan, Qomi Abad And Migjim Abad are unstable and critical areas.

Prioritization of critical living centers from a general viewpoint

In this stage of the hierarchy analysis process, if we calculate the total points of each one of rural areas obtained from each of the economic, social and natural stages, the level and prioritization of crisis will be determined in each case. Thus, as you can see in the tables 7 and 8, using personal experience, expert judgments and assuming that:

x<4 indicates stable or crisis-free villages,
4<x<7 indicates semi-critical or semi-stable villages,
and x>7 indicates critical or unstable villages,

as you can see in the table 4, the rural areas Ghale-No And Taleb Abad are stable and crisis-free areas; the rural areas Eshgh Abad, Deh Kheir, Firooz Abad, Mahmood Abad, Zaman Abad, Gol Tappeh Kabir, Ghasem Abad, Abbas Abad And Karim Abad are semi-critical or semi-stable areas; and the rural areas Hamid Abad, Kooreh Farangi, Najm Abad,

Chaltorkhan, Qomi Abad And Moghim Abad are critical and unstable areas.

Answers to hypotheses

Hypothesis 1: it seems that crisis management in rural communities can decrease rural society damage.

In order to synchronize rural management and complete crisis management and achieving their basic objectives in rural areas, programming and management must be carried out in a way that the basic objective which is the safety of villages in all levels and aspects is achieved. Great economic, social policy making and other types of it must be considered in the country's programs in national and territorial levels so that crisis management can response to disasters when they happen in rural communities. Having flexible programs of rural development in normal conditions can protect villages from waste and extensive financial and physical damage.

Hypothesis 2: crisis management in Ghale-No villages will help keep the population.

The growing rate of rural migration to cities from 1977 to 2006 and the location of most of villages in more dangerous places across the country makes it necessary to consider crisis and risk management against natural disasters for villages. Considering the results of the prioritization in the AHP approach, we are facing three groups of areas or living centers

with different levels of crisis. There are centers which are considered stable or crisis-free (6 villages or 28.8% of all the studied areas). Among these, only the rural areas Ghale-No, Chaltorkhan, Deh Kheir, Firooz Abad and Ghasem Abad are absolutely stable in the natural, economic and social aspects. The other areas of this group are semi-stable (or semi-critical) in either one or both of the economic and social aspects. That confirms the hypothesis 2 of this problem.

Conclusion

7. references:
The most important role of rural programming management and crisis and risk management is confrontation with natural crisis, identifying the risks which villages are involved with and attention to risk management, crisis management and creating a reasonable interaction among them. The success of today's developed countries in the field of confronting natural disasters is due to their professional view on prevention of disasters and identification of problem, needs and capabilities of the living environments which is a result of coordination between rural programming management and natural disasters management. In rural programming and management, education must be considered in all individual, group, section and social levels. Disaster preparation requires training. The training process includes the people involving the confrontation plan. It determines that all the people who live in rural areas and the executive organizations which play a role in confrontation must be trained of their responsibilities. Villages' Officials and people are exposed to risk and must be involved in the planning process. They must know what is ahead of them and what happens in disasters and what they can or cannot do about disasters and that planning against threats is an ongoing process.

Recommendations

- People-centered planning
- Comprehensiveness
- Considering people's contribution and innovation in management
- Time management and using opportunities
- Building social trust

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