

# INDIGENIZING OF RESPONSE INDEXES IN CRISIS MANAGEMENT IN IRAN (CASE STUDY: RASHT CITY)

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## Abstract

*Natural disasters are one of the topics that most cities face it. Natural disasters are often silent and still potentially vulnerable to damage and are caused loss of life and financial in developing countries each year. Response phase is an important risk management process that with right knowledge at this stage can significantly reduce the scope of damage. The purpose of this paper is to examine and analyze the indicators response phase in crisis management framework for the optimal maneuvers in this phase. In this regard is used analytical - survey methods for analysis of the physical dimensions and characteristics of the population in the Rasht city (Iran) about the subject of crisis management and have been used SPSS17 software for data analysis and screening of indicators. The research tools include: observation, questionnaire, field research, library resources and internet. Based on the research findings, decision making has been most important index in managerial indexes and land use has been most important index in physical indexes and also to support in public indexes and allocation of bank loans to the institutions damaged in economic indexes have the greatest impact on improving phase of response. In organizational indexes, risk decision and in social indexes, appropriate services of insurance are important factors in response to the crisis. Review of urban projects, proper training maneuvers in the field of response, resource allocation and construction of relief and rescue sites are as part of the proposed strategies to prevent loss of life and financial.*

**Keywords:** Crisis Management, Crisis, Indexes of Response, Response, Crisis Phases

## 1. Introduction

City is evolving geographical units and social (Rahnamaee, 1988:82), that physical dimensions and issue development of urbanization and also gradual increase in the number of cities in the world and loading economic and environmental sustainability is needed more attention. Actually city as a "source of development" (Shi, 2003: 37), requires dynamic

management in all aspects of it. Crisis in different organizations with a positive attitude should be considered as capital and thus in crisis, facilities of the organization, structure, human resources, legal empowerment and ... combined very well and sympathy must be created in organizations in order to effectively use from its unused facilities (Habibzadeh, 2010:104).

Social systems are exposed to the many and varied crisis that with varying intensity and weakness threaten sometimes whole and the existence of the social system and sometimes they disrupt the normal flow of affairs (Pourezat, 2008:164). Crisis in all its forms is an integral part of human life and diversity and their number is increasing day by day. In a country like Iran that is considered disaster-prone countries in the world. Crises are caused several losses in economic and social system of the country every year and due to lack of proper and efficient management in the country to contain these crisis, the damage range for this crisis is substantial. There are numerous crises, including natural crisis and economic crises and social and cultural crises. If the crisis management divides to crisis inhibitory strategies and response strategies to crisis, the rescue and recovery of crisis work is in response phase to the crisis and in this regard, micro-credit assignment is considered step of long and continuous in reconstruction period of crisis work (Rahmani, 2010:52). Attention to crisis management due to the growing trend types of global crisis seems obvious. The power of reaction to these crises is one of the main principles for the control of their domain and reduction of crisis. Promotion of crisis management in community with the developing appropriate indicators of response and obtain the necessary skills in these indexes are most important factors for facing crisis. The purpose of this study is to develop suitable and optimal response indexes in crisis management to increase the response to these crises and decreased range of human and physical losses. Response phase is an important phase in risk management. Research conducted about this topic can be mentioned to research of Gholamali Tabarsa with title "explanations of events managerial indexes with the approach of crisis prevention that in this study has been investigated each of the variables (Tabarsa, 2004). Dr. Oskouei evaluated damaged buildings from earthquake to reduce the scope of damage caused by earthquakes (Vatani Oskouei, 2008:10). also Dr. Taghvaei in research with title urban crisis management with emphasis on the post-crisis phase analyzed recovery process and the challenges encountered in this phase (taghvaei, 2008:24). Marcia Perry in research with title "Quick response supply chain alliances in the Australian textiles clothing and footwear industry" Structural principles of crisis management based on response measures (Perry, 2000:127) and also J.D. Sime in research with title "An Occupant Response Shelter Escape Time (ORSET) Model" is mentioned to response indexes role in the crisis control (J.D. Sime, 2001:115) and Garcia in research with title "crisis management and principles of response" offers strategies for rapid response in crisis management (Garcia, 2006:8).

## **2. Theoretical Foundations of Research**

Development of city and urbanization and gradual rise in major cities in the world especially in developing countries including Iran, on the one hand and urban growth, centralization of population and economic and environmental loadings in them, more attention to the cities has led to the adoption of different roles and performances. One of the most important issues

facing the world's largest cities is the subject of natural disasters. Due to the unexpected nature of these events and the need to adopt quick and correct decisions and execute operations, the theoretical and fundamental has created a knowledge entitled crisis management. This knowledge is said to set actions that before, during and after the crisis is done to reduce accidents and reduce vulnerability. By using the principles and criteria of urban planning and explain the concepts of available at this knowledge Like structure of the city, urban land use, communication network and urban infrastructure can be reduced greatly impacts and consequences of natural disasters (Ghanavati,Ghalami,Abdoli,2009:1). Crisis management is part of an extensive chain as follows:

Planning: Planning for disaster management institutions in the best position is respond to the incident and then improving crisis. Planning has two basic elements:

A. creating and aggravating the rules for individuals

B: Creating a crisis team

2 - In response to the incident: it is an automated process that the crisis management agencies achieve ensure in during it that People react properly to the crisis. Aware is key point in this element (Protecting Your Jewish Institution2010:130). Emergency response of organization is the primary needs in crisis management that through data collection and analysis it will be implemented decision-making and monitoring implementation in the shortest possible time (Mendonca , Beroggi , Van Gent , Wallace,2006:633) and he argues that local government in the city is the most appropriate system to deal with natural disasters, particularly due to their closeness to government as sub-branches of government and as well as applying local associations for disaster management in the local level (Kapucu,2010:6). In understanding of natural systems of human interactions and the environment is useful that create the two issues in mind. One is interaction of components and another area of risk in assessment. In evaluating these two issues, review of physical processes in risk, evaluating the character of human populations and adjust them based on risk, measuring vulnerability and exposure to risk and human responses and costs should be analyzed and evaluated. Based on this vulnerability can be defined measuring facing an individual or group in the effects of natural hazards and also measuring the degree of improvement groups and individuals after occurring event (McEwen, 2002:287).

Smith divided into two categories disastrous effects.

A: direct

B: indirect

Direct consequence effects happened in the first day that emerges immediately after the event or disaster. Costs of direct effects in disaster are the most visible and therefore the most costs in disaster. Indirect effects refer to the indirect effects after emergence of the disaster that includes disorders of economic-social, and emotional of community that is considered less. Community's ability to recover after the events is determined by a range of factors. However, factor of center core for position of each community to respond disaster is capacity of the community management that based on the capital and available resources and mobilize of assets can be maximized center core factor (Willeams, 2010:299).



Figure 1: The cyclical model of crisis management (Gholipour, 2009:11)

### 2.1. Terms of crisis

Terms of crisis has been taken from ancient Greek meaning judgment or decision. In Chinese are pronounced as Wei-Ji, in fact exact translation Wei-Ji is opportunity for risk. In present times, crisis is primarily a marker of discrimination or the ability of discrimination, choice, judgment, decision making, as well as exit and conflict resolution. Famous American sociologist, Enrique says that has spent forty years to understand the concept of crisis and disaster (Milašinović, 2008:170).

### 2.2. Crisis and Urban Crisis Management

Crisis refers to a situation that it threat to interruptions in organizational environments, institutions, and processes that threaten the organization's key values. To provide an appropriate definition from crisis must be able to distinguish between crisis conditions and non-crisis that this experimental procedure is understandable (Röber, 2009:16) and on the other hand, against word crisis, it can be noted to urban crisis management. Robert Kennedy in one of his speeches noted that crisis is one of the unexpected features of human behavior, sometimes for being the better and sometimes for being the worse (Helen Shannon, 2003:1). Urban crisis management is efforts to management crisis arise from social events, natural disasters, terrorist attacks or other problems that occur in the general management of a city. In fact urban crisis management is necessary of emergency and inevitable to repair the damage and restore peace in the streets and public places and is prevention of disorders of norm and coordination to reduce the vulnerability of people and property (Delavari, 2007:12).

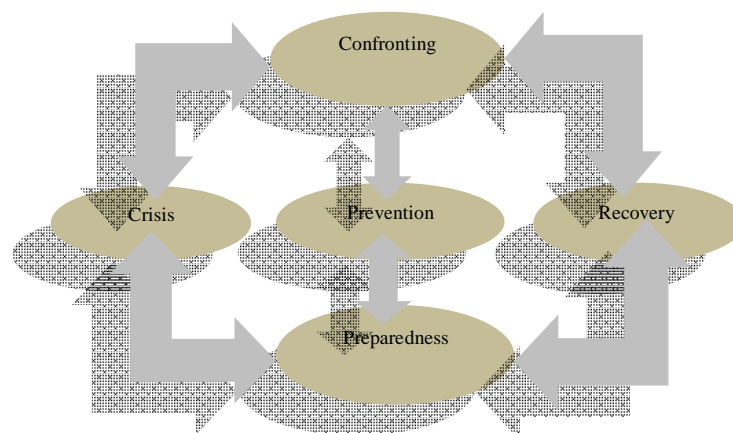


Figure 2- Effective crisis management cycle (Paybandani, 2008, 59)

### 2.3. Crisis Dimensions

Crisis dimensions may be international, domestic, local or enterprise, or a combination of them. For example, the threat of nuclear war or wheat embargo or oil exports to hostile countries is an international crisis. Integration of citizens, train hijacking or kidnapping is also examples of domestic crises. Crisis in the field of economic can occurred in employment and economic prosperity, closing mine in region of coal or reducing investment in national level suddenly (Uriel Rosenthal, 1997, 281).

Crisis is divided into several categories but for short-term goals, there are two types of crisis:

- 1 - Sudden
- 2 – Gradual

Examples of sudden crisis include fuel crisis or loss all of a company's board of directors in air accidents and as well as Exxon Valdez crisis and gradual crisis such as global warming, the energy crisis and limitation of fossil resources (Jeremy Larken, 2000:3). Management of a major crisis requires prevention, testing, evaluation and maintenance and as well as to reduce and minimizing consequences. Any natural crisis is accidental or intentional event that strongly affects people's lives (Center for Chemical Process Safety (ccps), 2005:5). As Rosemary Burk believes that is the main component of response to crisis planning (Ashcroft, 1997:328). To control crisis, management is a basic factor and developing effective management in a crisis management include operational capacity and practices potential of crisis to reduce emergency challenges that be a less threatening (La Porte,2007,28). The tsunami struck in Asian, the earthquake in Bam of Iran and Muzaffarabad of Pakistan, floods, droughts and extreme heat in Europe and Katrina Hurricane in America are just a few examples of great disasters that are viewed like it less than in the past. This means that present world and the world in the future; the world will be different in terms of the number and magnitude of disasters. Although number of disaster may not be very significant in small communities but in general and for the international community is the large number and significant (Sappier, 2006:23). What kind of crisis will affect us and how we can prepare

themselves against crisis, are the basic questions that must ask before the crisis (Warren Buffett, 2011:5). As mentioned, crisis management included three phase: 1- preparedness for disaster 2 - response and rescue in emergency situations 3 - recovery and reconstruction after a disaster. Use of urban principles and standards and explain concepts such as the form in urban design knowledge, urban fabric and construction, appropriate use of land, urban networks and urban infrastructure can greatly reduce the effects and consequences of disasters (Sadeghi Moghadam,2012:5). Figure 3 shows the normal process of crisis management when disasters occur. As can be seen, crisis management with encompass before, during and after the crisis responds by using the most indexes and crisis will go to the ideal conditions. Figure 3 shows the response indicators in crisis management.

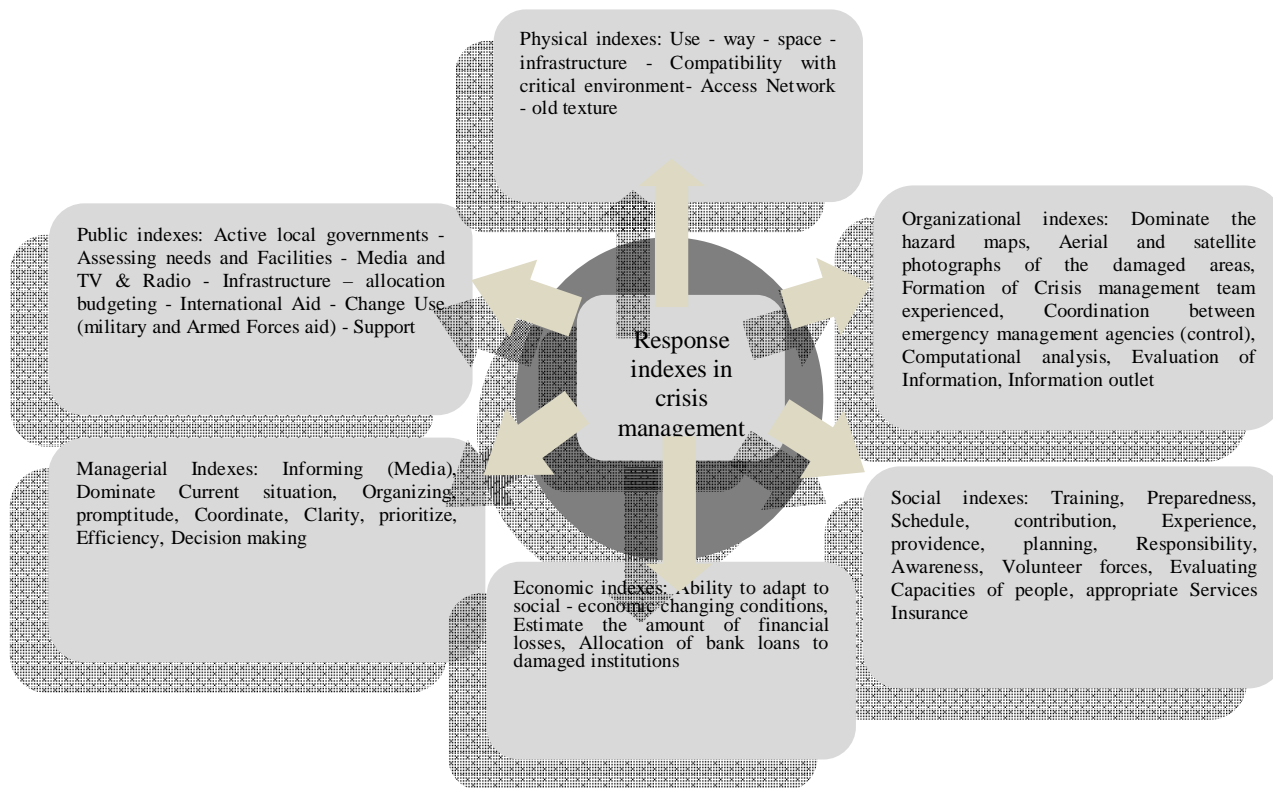


Figure 3 - Deductive Model of Response indexes in crisis management (research findings, 2012)

### 3. Research Methodology

#### 3.1. Scope of Study

Area of Guilan province in northern Iran is over 14 thousand square kilometers. This province is located at 36 degrees and 33 minutes to 38 degrees and 27 minutes north latitude and 48 degrees 32 minutes 50 degrees and 36 minutes east from prime meridian. In return for from north-west to south-east, 235 km and its width vary from 25 to 105 km (City Comprehensive Plan, 2007).

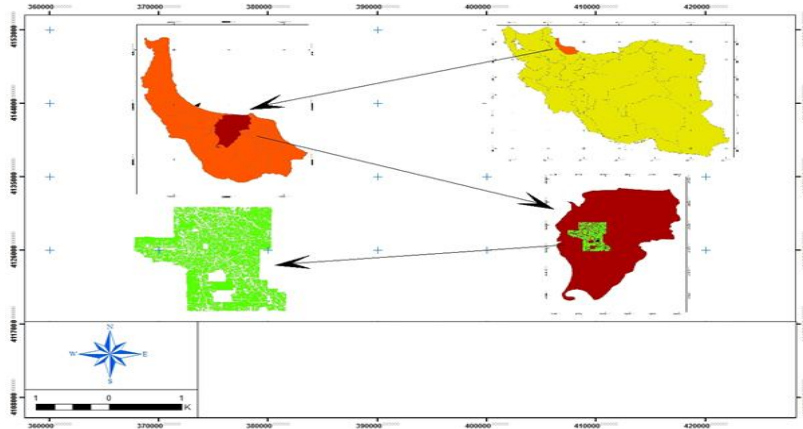
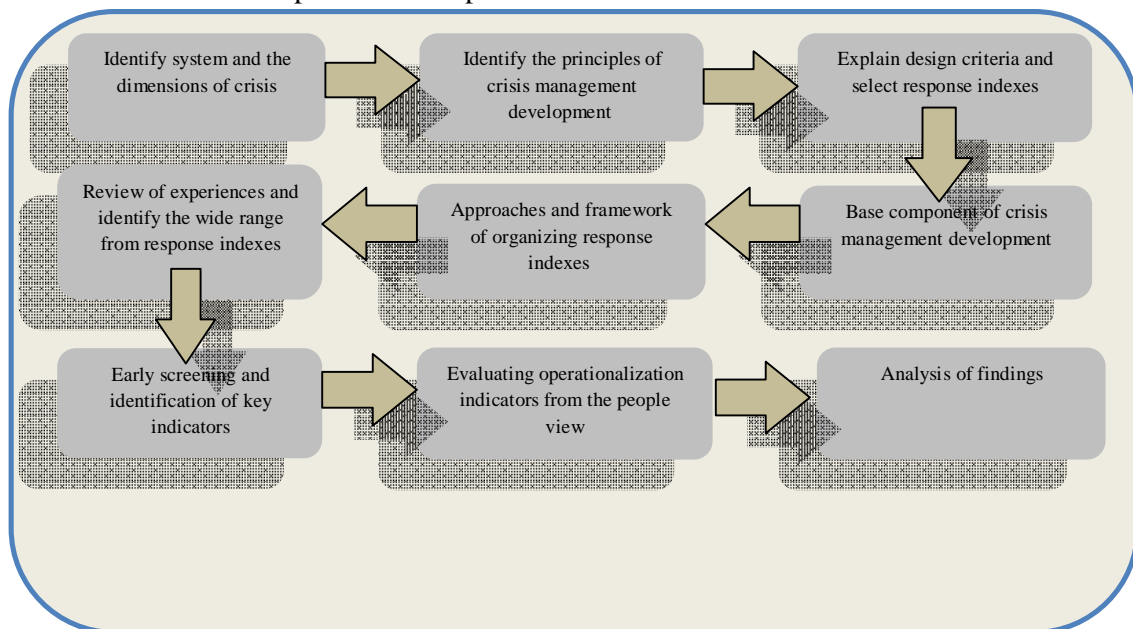


Figure 4 - the geographical location map of the studied area in the Gilan province and the country.

### 3.2. Materials and Methods

Since the main purpose of the paper was to achieve an appropriate set and local from indicators of response in crisis management, has been tried by using method of analytical - survey (people survey) achieved mentioned purpose. For data analysis is used statistical methods such as mean and variance and SPSS software. In this paper, response indicators in a crisis management have been gathered from various sources and these indicators was classified in terms of management indexes and social, economic, governmental, organizational and physical. Then these indexes selected according to underlying principles of crisis management and most important indexes have been extracted. These indexes in form of questionnaire were distributed in 92 neighborhoods in the city of Rasht and finally by using the software SPSS analyzed. According to studies done about indexes of response crisis management can be seen different processes, although a little from plan to measure them, however in terms of their common features can introduced systematic process figure 5 that consists of 9 key steps. This process indicates that to design, explore and localizing indexes of response must exist components mentioned. In framework of present study that is based on methodology indexes of response in crisis management, each of the main components is considered that each of phases of this process describe in detail.



## 4. Research Findings

### 4.1. Most Important local indexes of response in crisis management

Basically according to indicators as a tool to observe quantity and quality of policies and actions, impacts and outcomes measured and evaluation of situation has a long history. Attention to the development of indexes was introduced in decade of the 30th century seriously the first time and then in decades after the movement of development was formed indexes. Indexes were included economic dimensions and indicators such as production was generalized as overall welfare indicators of nations "GNP" and "GDP". Since today's the use of indexes has been suggested as a necessity in management, the use of technical indicators (ie, direct / indirect, descriptive / analytical and objective / subjective) and specialized indicators (economic indicators, social indicators and environmental indicators) development has also been developed (Eftekhari, 2010:10). In order to ensure from the selected indexes, was designed questionnaire and views of statistical sample is investigated based on Likert scale.

Table 1 - Classification range of questions based on Likert scale

Answers range in of terms important	Very low	Low	Moderate	High	Very high
Score	5	4	3	2	1

Figure 6 shows the selection criteria for response indexes in crisis management

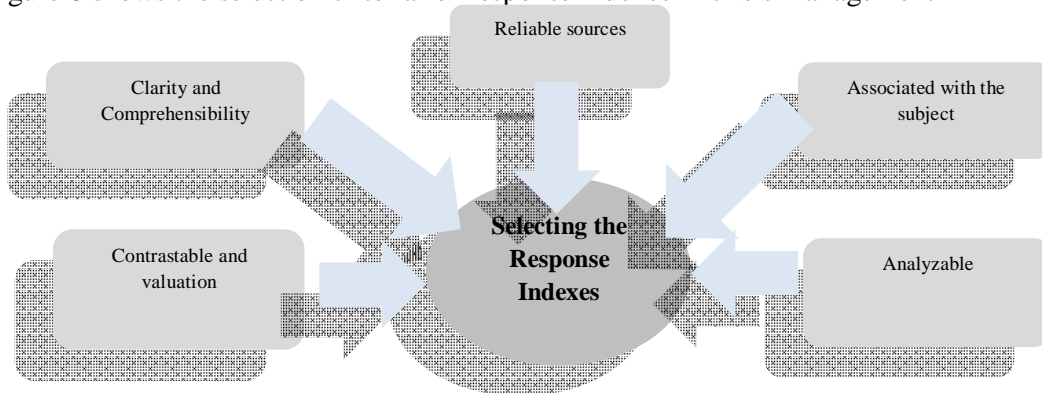


Figure (6) - the criteria for selecting the response indexes

Each of the indexes of response in crisis are Basic fundamental in response that in during the incident with an appropriate prioritization in these indicators can be seen response management of efficient and good. Proper investment analysis in these indexes according to impact of them in response appropriately can strengthen how crisis management to deal with the crisis. The most basic element in crisis management is appropriate response and fast in crisis, so professional management of response can be the essential key in crisis management. Each of these indexes analyze by using SPSS software and Importance of each is specified.

#### 4.2. Findings Analysis in the Field of the Managerial Indexes of Response in Crisis Management

The results of data in the field of the response indexes suggest that these indexes have important role in responding to crises in large and small-scale. This means that investment on these indicators can improve our performance method during the crisis. Based on information obtained in the field of managerial response indexes (Table 2) indexes of decision making, efficiency and dominate the existing situation have a high percentage that shows the importance of the indexes in this area. Also index such as act speed and organizing these groups also are important. Attention to indexes improves method of management during a disaster or crisis. Managerial indexes determine how to manage a crisis (Habibzadeh, 2010:113).

Table 2 - The most important Managerial indexes of response in crisis management

System	Subsystem	Managerial Indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Mean
			Very high	High	Moderate	Low	Very low			
Human System	Managerial Indexes of Response	Informing (Media)	73/5	17	4/9	3/5	1/1	0/826	0/683	1/42
		Dominate Current situation	71/4	20/5	6/8	1/4	0	0/673	0/453	1/38
		Organizing	70/8	21/9	5/4	1/1	0/8	0/714	0/510	1/39
		promptitude	70/3	23/8	4/6	1/4	0	0/638	0/407	1/37
		Coordinate	63/8	25/7	8/6	1/4	0/5	0/755	0/570	1/49
		Clarity	68/1	23	6/8	1/1	1/1	0/760	0/578	1/44
		prioritize	72/2	17/3	8/1	2/4	0	0/742	0/551	1/41
		Efficiency	74/9	16/5	5/7	2/4	0/5	0/748	0/560	1/37
	Decision making	77	14/1	5/9	1/1	1/9	0/803	0/645	1/37	

#### 4.3. Findings Analysis in the Field of the Physical Indexes of Response in Crisis Management

In the field of physical indexes of response in crisis management (Table 3) can be pointed to the use index that is devoted high share from views of the people. Land use has always been an important element in urban planning and urban design that unfortunately, in our country due to lack of discipline in urban land uses, the use interaction see in cities that a lot of sale by the municipality also raise always it (Alikhani, 2008:22). In crisis, user interaction can greatly increase the scope of damages. Because unauthorized construction in commercial or industrial areas could affect to increase death rate or problems in the crisis. Deterioration texture index is one of most important factor to increase losses during the crisis. Given that

old texture is an integral part of our country cities. Implementation of renovation projects to repair deterioration texture is one of the infrastructure factors to reduce damage in crisis. Creating maneuvering aid in areas of deterioration texture can increase our efficiency to reduce damage in these areas dramatically. Indicators of access networks and the way in increasing speed and good access to all areas is an important factor to control any crisis. Alignment with the critical situation and gain control is also the most important indicators for fast response.

Table 3 - The most important physical indexes of response in crisis management

System	Subsystem	Physical Indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Variance
			Very high	High	Moderate	Low	Very low			
Human System	Physical Indexes of Response	Use	74/3	17/6	6/5	0/8	0/8	0/713	0/508	1/36
		Way	72/7	21/4	3/8	2/2	0	0/660	0/435	1/35
		Space	66/8	27	3/5	2/2	0/5	0/715	0/511	1/43
		Infrastructure	64/6	25/7	7/8	1/1	0/8	0/755	0/570	1/48
		Compatibility with Critical environmental	64/9	25/7	6/5	2/2	0	0/715	0/511	1/46
		Access networks	67	23/2	5/7	2/4	1/6	0/840	0/706	1/48
		Deterioration texture	73/5	16/8	5/4	2/4	1/9	0/853	0/727	1/42

#### 4.4. Findings Analysis in the Field of the Public (Government) Indexes of Response in Crisis Management

Public indexes (Table 4) in response to the crisis somehow justify government intervention in the crisis management. One of the most important indexes is TV and radio media that are under the supervision of direct government. Basically right information to the public during a crisis can be an important element in all stages of crisis management (Oskouei, 2008:20). Active local governments that referring to provider entities of services to people are important indicator of response for government access to conflict areas and coordination between these local governments will make government's intervention process easier in during crisis. Budget allocation is one of the most important indexes during the recovery phase of the crisis management. Compensation for damages caused by the crisis, accelerating the process of recovery, boost the morale of community after the crisis and gain legitimacy for the government is greatest achievements of budget allocation in crisis areas. Use change index refers to help the military and the armed forces for help during crisis. Without a doubt one of the most important factors of act fast during responding to crisis is intervention of army and military forces and other institutions for the crisis management. Basically it can be said that during the crisis can be measure the efficiency of the government in delivery of services to people and crises are always a challenge and hard test to gain acceptance by the people for the government. Government at all stages of crisis management including before,

during and after the crisis could be involved and in general can be said that it isn't significant crisis management without government intervention. Public indexes help to governments in control and guidance and prevent from crises. Public indexes of crisis management in coordination and avoid confusion during the crisis and its control are good factors. Investment and gain the necessary experience in this index appear to be critical for governments.

Table 4 - the most Public indexes of response in crisis management

System	Subsystem	public Indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Mean
			Very high	High	Moderate	Low	Very low			
Human System	public Indexes of Response	Active local governments	74/1	20	4/6	1/4	0	0/629	0/396	1/33
		Assessment of needs and facilities	67/8	24/1	3/8	3	4/1	0/816	0/666	1/46
		TV and radio	65/1	26/8	6/2	1/6	0/3	0/709	0/503	1/45
		Infrastructure	62/2	25/9	9/2	1/4	1/4	0/823	0/677	1/54
		Budget allocation	73/2	14/9	9/7	2/2	0	0/753	0/567	41/1
		International aid	66/5	22/4	8/9	2/2	0	0/747	0/559	1/47
		Use change (to help the Army and the armed forces)	71/4	18/6	6/5	0/3	0/5	0/787	0/619	1/43
		Support	75/1	14/3	5/9	4/1	0/5	0/818	0/670	1/41

#### 4.5. Findings Analysis in the Field of the Economical Indexes of Response in Crisis Management

Economical indexes of response in crisis management (table 5) are type of public indexes. But in this study is investigated separately. Essentially, phase of recovery in crisis management is one of the most important steps to control and also pass from crisis (Hosseini, 2008:113). Allocation of bank loans to damaged institutions that have obtained the most people view, one of the main indexes for fast reconstruction process. Allocation of bank loans in important issues such as building house, compensation of damage, promotion of a new beginning spirit for community and restoration of infrastructure and other items are main priorities during the recovery phase. Economic crisis has always been one of the crises that threaten the economy of communities. Ability to adapt to social - economic changing conditions is basic indicators to deal with a variety of economic crises and social and control of these crises. In fact this index is mentioned to more flexible government and crisis management agencies with the situation. Economic indexes are financial instrument for crisis. Perhaps the greatest losses in a crisis after loss of life are property damage to people or

institutions that these indicators can greatly affect in normalization of the situation and respond more quickly. These indicators can also be very helpful in recovery phase and in process of recovery and normalization of living conditions and equal needs with the facilities be useful experience for crisis management organizations in community.

Table 5 - the most important economic indexes of response in crisis management

System	Subsystem	Economical indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Mean
			Very high	High	Moderate	Low	Very low			
Human System	Economical indexes of Response	Ability to adapt to social - economic changing conditions	67/6	23	3/8	4/3	1/4	0/866	0/749	1/49
		Estimate the amount of financial losses	61/1	29/2	6/8	2/4	0/5	0/773	0/598	1/52
		Allocation of bank loans to damaged institutions	73	16/5	6/8	2/2	1/6	0/840	0/706	1/43

#### 4.6. Findings Analysis in the Field of the Organizational Indexes of Response in Crisis Management

Organizational indexes (Table 6) refer to a central management and control to control the crisis. Basically, during a crisis occur having an institution of warning and guidance and control of crisis is basic necessities. Having high risk taking is major priority for institutions of central crisis management. Having trained and qualified work force, sufficient dominate on risk maps, easy access to aerial and satellite photographs of the damaged areas, and computational analysis by using software such as GIS is a major work of central management institution of crisis. Coordination between other subset institutions to accelerate the response is one of the important indexes controlling and directing of crisis. Organizational indexes in crisis management are basic indexes before, during and after the crisis. Necessary skills in these indexes are the best tools to control and guiding crisis. During crisis existence of a control team is the basic necessities. Appropriate skills and training for team employees is essential because any mistake can caused irreparable damage. City zoning in terms of risk areas and prevent the construction or retrofitting these areas, coordination among subgroup institutions for non-interference in tasks, creating a broad network of information for easy and secure information exchange, the use of modern technology for information analysis and early compatible with crisis situations are The main tasks for crisis control team. Having organizational indexes for crisis management team is basic needs that control and guiding process of crisis makes easy.

Table 6 - The most important organizational indexes of response in crisis management

System	Subsystem	Organizational indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Mean
			Very high	High	Moderate	Low	Very low			
Human System	Organizational indexes of Response	Dominant the hazard maps	74/3	17	5/7	1/9	1/1	0/77	0/595	1/38
		Aerial and satellite photographs of the damaged areas	67/8	24/1	4/1	3/8	0/3	0/768	0/589	1/45
		formation of Crisis management team experienced	65/1	25/1	6/2	1/6	1/9	0/837	0/701	1/50
		Coordination between emergency management agencies (control)	68/4	18/4	9/7	3	0/5	0/830	0/690	1/49
		Computational analysis	71/9	17	6/8	2/2	2/2	0/880	0/775	1/46
		Evaluation of Information	66/8	23/8	5/9	1/1	2/4	0/853	0/727	1/49
		Information outlet	70/3	17/8	7/8	2/7	1/4	0/856	0/732	1/47
		Convey critical commands to resolve the crisis	71/1	18/6	6/8	2/7	0/8	0/801	0/642	1/44
		Risk Appetite	74/9	14/9	5/4	3	1/9	0/871	0/759	1/42

#### 4.7. Findings Analysis in the Field of the Social Indexes of Response in Crisis Management

Social indexes of response (Table 7) are the main indexes of response before the crisis. These indexes are related to people that one of basic elements that has most damage to them. Then realization of social indicators can greatly protect people against crises. Training is one of the most important indexes before the crisis. Basically training before any work can be an experience to do it. Public primary training, technical and specialized training crisis management teams and other training, such as the pilot maneuvers can be useful to

familiarize the public with crisis. Providing appropriate services of insurance in the community level can be effective in reducing losses. Insurance is one of the crucial factors in recovery phase that can promote this process. Offering insurance for a variety of crisis in organizations and people is considered one of important solutions to improving these indicators in the community.

Amount of plans with the content of crisis management in the country and lack of refers to this issue in a comprehensive plan, conducting and detailed show lack of adequate investment in this relationship in the country. Basically, the lack of specific plan and program for crisis management is caused the confusion and lack of coordination in during a crisis. Implementation plans for three stages of crisis management separately and placing issues of crisis management in urban plans and rural, attention to construction principally for strengthening the urban fabric in specific design is ideal solution to enhance this index in community. Preparedness index can be combined of education, experience and planning. Actually achieve to this indexes can be include preparation index after considering the above statements that expressed about three indexes, can realized the importance index in the crisis. Essentially, social indexes are considered participatory planning because people accept always the most affected by the crisis. These indicators can greatly people resistant in crisis.

Table 7 - The most important social indexes of response in crisis management

System	Subsystem	Social indexes of Response in Crisis Management	Frequency of people view					Standard deviation	Variance	Mean
			Very high	High	Moderate	Low	Very low			
Human System	Social indexes of Response	Training	75/7	14/9	7/3	1/6	0/5	0/736	0/541	1/36
		Preparedness	73	19/7	4/9	1/6	0/8	0/727	0/528	1/38
		Schedule	68/4	24/3	4/6	2/4	0/3	0/718	0/515	1/42
		contribution	70/3	21/6	5/9	1/1	1/1	0/746	0/557	1/41
		Experience	68/9	23	5/4	1/4	1/4	0/774	0/598	1/43
		providence	72/2	18/6	5/1	4/1	0	0/768	0/590	1/41
		Planning	73/8	16/8	6/2	2/2	1/1	0/791	0/625	1/40
		Responsibility	65/1	24/6	7/3	1/1	1/9	0/830	0/690	1/50
		Awareness	71/6	16/5	8/1	3	0/8	0/829	0/687	1/45
		Volunteer forces	70/3	17/8	7/8	1/4	2/7	0/902	0/814	1/48
		Evaluating Capacities of people	70/3	19/2	8/6	1/6	0/3	0/741	0/548	1/42
Public	74/3	16/8	5/4	2/7	0/8	0/779	0/607	1/39		

	assistance								
	appropriate Services Insurance	78/1	10/8	7/3	2/4	1/4	0/832	0/692	1/38
	Private sector participation	64/9	18/6	9/5	3/2	3/8	1/037	1/075	1/62

Figure 7 refers to factors enhancing crisis management in the community. These factors are infrastructure factors to achieve the goals of crisis management in the community level.

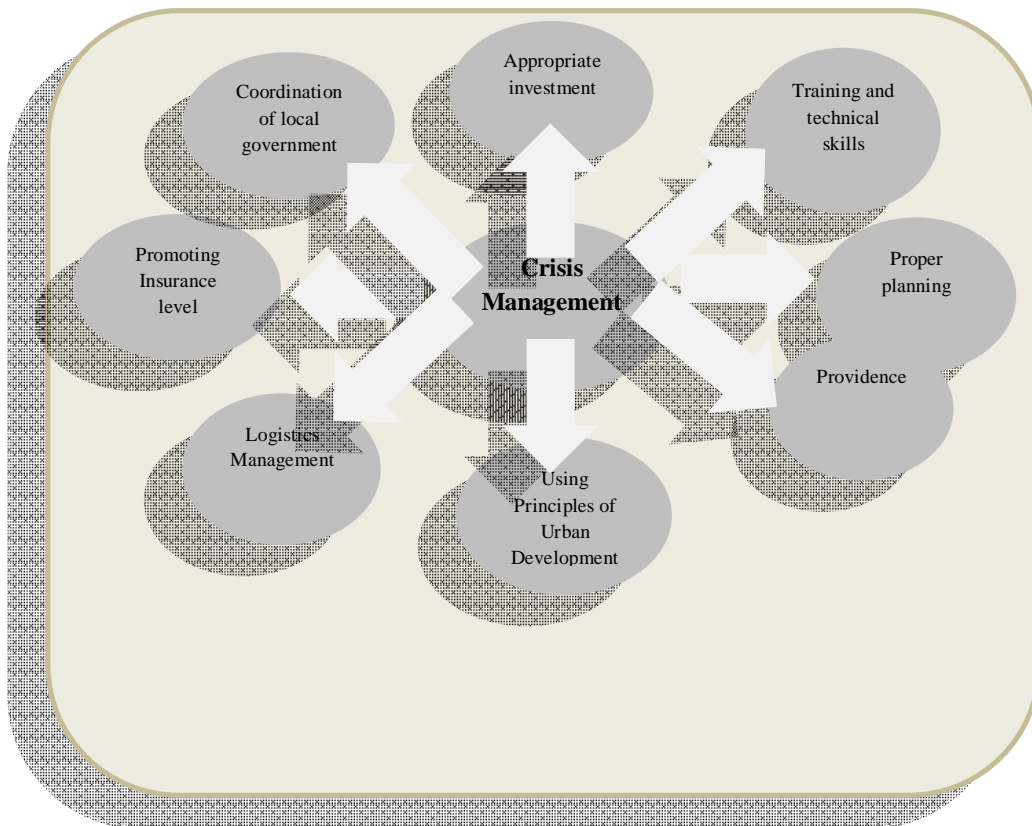


Figure 7 - Factors promoting of crisis management in society (research findings, 2012)

**5. Discussion and conclusion**

Crisis and occurrence of crisis has been always exist in cities and their optimal management, and in this regard of crisis management to probably crisis handle is one of the most important components in this field. Reduce the impact of the crisis, experienced crisis management team and a strong; respond quickly, strong local government in coordination of administrative tasks and appropriate post-disaster recovery are important parameters of crisis management. In our country, Iran probably did not pay enough attention to this issue and events such as earthquake in Bam leads us to this fact. Lack of quality in the construction of buildings, lack of appropriate urban planning principles, the lack of attention to crisis

management in urban planning and lack of proper training to form a crisis team trained and ... is including factors to increase crisis impact and disasters in the country. Pre-crisis planning is an important issue facing urban managers, especially in areas of crisis management. Considering Iran is considered the disaster-prone countries in the world, it is necessary that urban management have a high degree of ability and qualifications to face of natural disaster events and to reduce crisis negative impacts try to enhance their ability and development continually. According to country is located in the disaster-prone, should pay more attention to risk management in urban design and planning principles. The use of statistical computer software such as GIS in disaster management can have much efficient in urban management and to reduce the damage caused by the crisis and even predicting crisis. Overall, 52 index is used to respond in a crisis management in this paper that to summarize in contents is mentioned five indexes following that have obtained the most points according to table (7):

Table 8- Screening indicators in the study area

Screening of the indicators in each of the fields responding to the crisis						
Ranking	Managerial indexes	Physical indexes	Public indexes	Economical indexes	organizational indexes	Social indexes
1	Decision making	Use	Support	Allocation of bank loans to damaged institutions	Risk Appetite	appropriate Services Insurance
2	Efficiency	Deterioration texture	Active local governments	Ability to adapt to social - economic changing conditions	Dominate the hazard maps	Training
3	Informing (Media)	way	Budget allocation	Estimate the amount of financial losses	Computational analysis	Public assistance
4	prioritize	Access network	Use change		Convey critical commands to resolve the crisis	Planning
5	Dominate Current situation	Space	Assessment of needs and facilities		Information outlet	Preparedness

From 52 index listed 28 indexes is selected as an index that earned the highest rating in the survey from people Table (7). These indexes encompass three stages of crisis management (before, during and after the crisis). So good investment over these indexes can be completely covered by crisis management and can test preparedness in crisis. As previously mentioned, Indexes are not essentially a solution to the crisis, but they are a way to achieve long-term goals of crisis management for proper control of crisis. Response is considered one of the

most important factors of crisis management. More attention to this phase of the crisis management greatly reduces domain of the damage caused by the crisis. Explaining response indexes in crisis management greatly increases power, speed, and our experience to manage the crisis. In summary, crisis management with humanitarian disaster such as Bam earthquake more than before it is important for our country. Establishing warning systems, to achieve necessary preparedness in three stages of crisis management, formation of skilled crisis management team, appropriate government investment in disaster management, apply disaster management issues in urban design, public insurance against crises and quick response and raising the skill level of crisis management teams in recovery phase are most important strategies for raising the issue of disaster management in the country. Observance principles of urban development, textures repair dilapidated and attention to infrastructure of the economic, social, cultural to insure the city in confronting the crisis is essential. The most common and most widely accepted plans and actions in crisis management are prevention and preparedness in crisis and the normalizing and the renewal condition of life after the crisis and if also evaluating, ranking and their priorities is done correctly, will increase safety factor in relation to effectiveness of crisis management.

## 6. Suggestions

- 1 - Revision of urban plans and more attention to the issue of crisis management and the people involvement in these projects
- 2 - Preparation and implementation of a comprehensive crisis management plan in order to create perfect access to improve crisis management in city.
- 3 - Implementation of appropriate training exercises about response to create skills and speed in step of response.
- 4 - Allocation of resources and construction of sites help and rescue In order to create appropriate field to response in the crisis

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