

## The Analysis of Crisis Management of Natural Disasters in Nazarabad Using SWOT Model

Saeed Nasiri Majd<sup>1\*</sup>, Manoochehr Tabibian<sup>2</sup>, Bahram Aminzadeh<sup>3</sup>

<sup>1</sup>M.A of Civil Planning, Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran

<sup>2</sup>Full Professor, Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran

<sup>3</sup>Assistant Professor, Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran

*Received: June 21, 2014*

*Accepted: September 20, 2014*

---

### ABSTRACT

Crisis management includes a system of profession of using technology, architecture and management to confront unexpected events. This management is used before, during and after the crisis to decrease most of its effects and side effects. Nazarabad in Karaj has some problems in crisis management due to geographical situation, watercourses and rivers, vulnerability of old texture, lack of coordination of organizations related to crisis, and etc. Purposes of this research are: identification of effective strategies in crisis management of natural disasters by crisis management organizations in Nazarabad and prioritizing effective strategies in crisis management. The paper is developmental-pragmatic in terms of its purpose and descriptive-analytic in terms of method. The SWOT technique is used to analyze data and describe strategies. The out-comes of the research show that according to numerous weak points, threshold of vulnerability is high in the crisis management of this city and needs revision and provision of appropriate policies to eliminate weaknesses and threats using power points and opportunities.

**KEYWORDS:** crisis management, natural disasters, Nazarabad, SWOT model

---

### 1. INTRODUCTION

During the life time of the earth, natural disasters have always existed and will exist as natural phenomena. The occurrence of natural disasters such as flood, earthquake, storm, etc. often causes great damages to human settlements and causes the habitants great casualties. Today, civil needs, house request and immigration of villagers to cities has caused growth and development of cities especially the big ones. Lack of attention to correct geographic location for cities, growth and development of them and prevention from uncontrolled expansion of cities has brought problems in safety of cities. This process has made cities be expanded on faults or near rivers and water courses. This can increase vulnerability and damages and casualties in disasters. Organizations and offices related to crisis management have determining role in control and inhibition of crisis in a country (Saednia, 1998:21). Therefore, existence of numerous centers of decision making and power in a system is a weakness for a country in confronting crisis situations (Montoya & Lorena, 2006: 360).

One of Iranian cities that suffer from this problem is Nazarabad. This city suffers from dramatic vulnerability in natural disasters because of its geographic situation and rivers and water course of Alborz Mountain.

Another weakness of this city is its old texture that every natural disaster increases its vulnerability. The problem of self-growing and old textures in the heart of the city mostly consists of one or two-floor houses with small areas erected compactly beside each other. These buildings often are not standardized and are not so stable against earthquakes. Another problem of these textures is pour convenience that makes first aids after disasters difficult and can become a catastrophe in case of a crisis.

In spite of the existing experiences, lack of coordination among organizations related to crisis in Nazar Abad, besides problems such as conditions and quality and quantity of the city's space, vulnerability of the city against natural disasters has increased.

About crisis management and strategies of that, many researches have been conducted in Iran and other countries, here which we pay to some of them.

Malake Azizpur et al (2011), in a research titled prioritization of effective elements in civil crisis management against natural disasters, analyzes and describes major effective factors in vulnerability of civil crisis management for recognizing crisis management of the city and vulnerability of civil areas against natural disasters. She states the purpose of the research was to use required management principles to decrease vulnerability of cities and achieving

---

\*Corresponding Author: Saeed Nasiri Majd, M.A of Civil Planning, Department of Architecture and Urbanism, Qazvin Branch, Islamic Azad University, Qazvin, Iran. E-mail: saeed\_nasirimajd@yahoo.com

priorities of effective factors in civil crisis management in organizations related to crisis management of Isfahan, in terms of indexes in question. Ghanavati, Ezatolla Ph.D. (2009), in a research titled enabling civil crisis management towards decreasing natural disasters of a case study, Khoram Abad city, believes that complexity of social and body structures in a big city needs precise crisis management that requires attention from preparation before the crisis until rebuilding after the crisis. Using new technology like GIS and other ones can be helpful. Therefore in big cities such as Khoram Abad, confrontation against crisis should be from the heart of these societies with correct and precise architecture. Mahmoodi, Seyed Mohammad Ph.D. (2003), in a research titled the role of information systems in crisis managements, believes that information systems that are in fact the most important source of information, analysis and strategic solutions in case of crisis confrontation have an important role in prevention, prediction and inhibition of risks and crises. In the paper, besides using library and comparative studies, experiences of the famous earthquake of Bam are also used and by interviewing experts who were present in the crisis of this earthquake he has examined his hypotheses.

Shams, Majid (2011), in his research about analysis of case study of earthquake crisis management in old texture of Kermanshah, Feiz Abad neighborhood, considers the necessity to decreasing vulnerability of city against earthquake one of the major goals of body planning and civil architecture. In this research he studies old structure of Feiz Abad in terms of crisis management emphasizing on earthquake in order to assess vulnerability. Indexes such as kind of material, age of buildings, number of floors, usage, occupied area, quality of buildings, population, width of passage and area were analyzed. Rashidi, Masume et al (2011) in their research titled crisis management to decrease damages caused by earthquake in Tehran, believe that compression and congress of population and increase in economical uploading on the province Tehran causes different roles and functions, and taking right actions contributes decreasing damages made by earthquake in a great way. Because of the body-spatial feature of Tehran and its strategic location, more attention should be paid to enabling crisis management against earthquake. Dimitrov, Alexander (2005) in a research titled crisis management from theory to performance in People Safety Center of Florence University- Italy analyzes common methods in emergency phase natural disasters (such as storm, earthquake) crisis management and a history of emergency preparation in terms of difference between people defense and defending people. Finally, this research pays to ten principles for defending people appropriately. Morphy, Brandra (1993) in a research titled crisis management and social investment discusses the role of social investment in crisis management. Conclusions drawn from this research are achieved from studies conducted after a storm and consequent water pollution in a village in Canada. The writer reports on the methodology, analyzes crisis management and planning, the role private organizations, condition of aids and spiritual health in the disaster. Ambrasis & Meloil (1982) in a research titled A Persian Earthquake History, state that in a serious earthquake in Tehran, the decision making elites (who are not many) and political organization (that are often on faults) would be dramatically damaged and the internal and external environment of the government system would be likely to face critical conditions. Overwhelming this crisis needs short-term and long-time management measurements.

Purposes of this research are to recognize effective strategies in natural disaster crisis management by organizations related to Nazar Abad crisis and prioritization natural disaster crisis management.

## 2. Research Hypothesis

The major hypothesis of this research is:

Geographical factors are the most important power point of Nazar Abad in natural disaster crisis management.

## 3. METHODOLOGY

This research has development-pragmatic purposes and descriptive-analytic methodology. Tools used in it are a questionnaire and quality observation in which the amount of crisis management strategies fulfillment is analyzed. Then the questionnaire is used in addition to observations to assess priority of crisis management strategies in Nazar Abad. According to this information and conclusions drawn from Kukaran test and regarding the population of the area, the statistic population is 283 persons including specialists, civil engineers and ordinary people who live in Nazar Abad. To analyze the data and describe crisis management strategies in Nazar Abad, SWOT technique was used.

## 4. Limitations of the study

Nazar Abad is a town located in Alborz province and near Savojbolagh. The centre of it is Nazar Abad. According to the last statistics of population updated in (2011), it has a population of 141160. It has about 34 villages. It consists of a central area and Tonkaman. The central includes Ahmad Abad, SeyedJamaledin and Najm Abad villages. Tonkaman includes southern and northern Tonkaman and Bakhtiar as the capital. Nazar Abad is located on a mild delta and its soil is fertile for agriculture and seifiiiikari. It has mild climate. About distribution of

facilities, the villages of this city have no more than governmental offices and about distribution of financial activities, majority of activities are grocery shops, public bathrooms and elementary schools.



Picture 1- the location of Nazar Abad in our country, source: Images. Google

## 5. Theoretical Basis

### 5.1. Crisis management

Management knowledge considers crisis the last phase of a destroying organization, when it is about to die (weitzel and Jansson, 1989) and in the view of some experts of this field such as Lippitt and Schmidt, “crises are periods whose damage remains on the life cycle of the organization (Lippitt and Schmidt, 1967& Greiner, 1972).

The term crisis has a Greek root “Krinein” which means turning point 1 especially in a sickness. Meanwhile, crisis is considered sensitive point 2 which can be caused by a pleasant or unpleasant change like death and life or stability or instability (Anbari 2004:134). Crises are different in terms of identity, size and intensity. However they all have consequences that can disturb functionality of the system or organization. Roberts states that defining crisis is not an easy job because this concept suffers from a conceptual, technical and operational and global gap due to its comprehensive functional identity.

Crisis management includes: the process of prevention of crisis, confrontation and intervention in crisis and rebuilding after the crisis. Crisis management means the system and usage of technology knowledge, planning and management in order to confront unexpected events. Casualties caused by disasters will be multiplied (Anbari 2004: 316).

Crisis management is a series of actions that are done before, during and after accidents to reduce most of side effects. One of the areas that are damaged after disasters especially earthquakes, are civil areas. This clarifies the necessity of performing crisis program. One common mistake in crisis management is that to think that for all crises there is one solution while because crises are caused by different factors, to control them we need various plans and programs (Tan Berg, 1994).

When we consider the concept of crisis management broader than the operation after the event, reducing dangers requires special preparation and fulfillment of specific needs and through this it becomes more relevant to civil planning and architecture (Abdollahi, 2003:60).

### 5.2. Four stages of crisis management

#### 5.2.1. Prevention:

A series of actions that assess risk-taking of the society in order to reduce consequences of accidents and by conducting studies and required measures reduce them to an acceptable level.

#### 5.2.2. Preparation

A series of actions that increase society’s ability in different levels of crisis management that include data gathering, planning, organizing, creating educational, management structures, provision of facilities and supplies, practice and maneuver.

#### 5.2.3. Confrontation

Doing actions and providing emergency services after the crisis in order to save people’s life and property, providing relative welfare and prevention of expansion of damages. Confrontation operation includes informing, warning, searching, saving, aid and health, treatment, transportation, communication, medical emergencies, burying, swage drain, fire fighting, controlling poisonous material, fuel transportation, opening major roads and etc.

#### 5.2.4. Rebuilding and enabling

Rebuilding includes all required actions after the crisis to bring normal conditions to damaged areas according to features of constant development, safety rules, public contribution and cultural, historic and social issues.

Enabling includes actions to bring back physical, spiritual, and social conditions of the injured to normal situation (Hasani, 2005:54).

### 5.3. Strategies of escaping crisis

#### 5.3.1. Strategy of escaping crisis

Managers who take such an approach use passive strategy 2 and reactive strategy 3 in crises. They have no planning or preparation to confront crisis and in case of it act passive and at most reactively. These managers do not have long-term plans and do not react before they feel the pressure of public opinion or they act when they face a threat for them or the organization in a crisis.

#### 5.3.2. Strategy of crisis fighting

In this approach, they do not escape from crisis but accept it as a natural rule and by the active strategy 5 try to fight and confront it. Those managers and organizations that take such an approach use all their potentials to prevent the crisis before it occurs and to confront it in case it occurs. Such managers come on stage right after the crisis occurs and actively control and inhibit it.

#### 5.3.3. The strategy of crisis acceptance

In this strategy in addition to accepting the crisis as a probable phenomenon, they expect and predict it. In other words, by taking a super active strategy they emphasize on discovering new opportunities and new horizons for growth and activity. Such organizations have specific structural features like creativity, flexibility, professionalism, concentration and low formality. According to a super-active strategy, every crisis can be a new opportunity. Therefore it is necessary to expect crises and have enough preparations and prediction so that in case of a crisis the opportunity can be utilized. Managers using super-active strategy not only are not influenced by critical situations and do not try to conform to them, but they adjust situations to their goals. They act as pioneers. Such managers have the ability to change crises to opportunities. This is in fact an approach to crisis management that concerns all levels of it including before, during and after. Effective strategies in crisis management bring effective approaches.

## 6. Analysis of data

In order to give strategies and policies of crisis management in Nazar Abad, recognizing four factors of SWOT, to eliminate shortages, threats and to develop power points and opportunities is irresistible.

### 6.1. Analysis of domestic factors affecting crisis management of Nazar Abad

Index	Power points	Weak points
<b>Economical</b>	<ul style="list-style-type: none"> <li>- Appropriate financial management of</li> <li>- Insuring some citizens for flood by the government and insurance company</li> <li>- Budgeting for planning crisis management by the government</li> </ul>	<ul style="list-style-type: none"> <li>- Not giving long-term loans to people to fortify buildings</li> <li>- Living in old buildings because of financial issues</li> <li>- Lack of coordination between banks and financial institutes with public service departments such as electricity, transportation</li> <li>- Lack of financial approaches and credits to reduce the risk of future crises in town</li> <li>- Lack of budgeting credits for establishing civil rescue teams</li> </ul>
<b>Social-cultural</b>	<ul style="list-style-type: none"> <li>- Training private companies to prepare for before, during and after crisis</li> <li>- Training fire fighters to stop fire</li> <li>- Voluntarily activities of some citizens to confront crisis</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of training citizens for emergency evacuating</li> <li>- Overpopulation in old structures of town</li> <li>- Lack of independent researches by local educational institutes about natural phenomena such as rain, flood, tornado, volcano and etc.</li> </ul>
<b>Ecologic</b>	<ul style="list-style-type: none"> <li>- Up-to-date ecological and climate information of the area to confront possible natural disaster crises</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of appropriate vegetation especially on heights in order to stop floods</li> <li>- Lack of saving underground water in the area</li> </ul>

The purpose of this stage is to assess the area of the study to recognize weak points and power points. That is aspects that in achieving goals of planning and fulfillment of them have evocative or preventing effects are important. Therefore factors related to this issue are described in chart no. 1 under title of weak points and power points and in frame work of different aspects of crisis management (economical, social, cultural, ecologic, transportation, body, management).

Chart 1- matrix of domestic factors effective on crisis management in Nazar Abad

Index	Power points	Weak points
<b>Transportation and communication</b>	- Existence of telecommunication centers in all towns and villages	- Existence of narrow roads in Nazar Abad and other villages especially in old structures - Lack of emergency communication network in villages of Nazar Abad - Lack of asphalt roads in some of villages that increase the danger of flood
<b>Body</b>	- Specifying several locations for temporary accommodation by the municipality	- Near distance of old structures especially in villages to faults - Inequality in distribution of emergency services and safety among Nazar Abad and villages - Lack of automatic gas-outage system in the area - Existence of spontaneous settlements in Ahmad Abad, Najm Abad Tonkaman and Nazar Abad
<b>Management</b>	- Existence of planning of crisis management for all the province - Creation of earthquake observation network in the province - Youth in the crisis management organization - Existence of crisis management guidelines for different areas of Alborz according to the size of risk	- Lack of control and observation on construction in the town - Lack of risk-measurement map to help local crisis management

**6.2. Analysis of external factors effective on crisis management in Nazar Abad**

The purpose of this stage is to measure external area of the study to recognize weak points and power points. That is the aspects that in achieving planning goals and fulfillment of them have evocative or preventing effect are important. Therefore factors related to this issue are described in chart no. 2 under title of threats and opportunities and in frame work of different aspects of crisis management (economical, social, cultural, ecologic, transportation, body, management).

Chart 2- matrix of external factors effective on crisis management in Nazar Abad

Index	Opportunities	Threats
<b>Economical</b>	- forming fund to confront before, during and after crisis - Increase of budget and fund to support crisis management of Nazar Abad financially - Financial support from state and government such as Central Bank, municipality and other banks	- High economical expenses due to uncoordinated crisis management in Nazar Abad - Shortage of budget to rebuild infrastructures after crisis - High financial damage caused by destruction of buildings after flood in towns and villages
<b>Social</b>	- Creation of public informing network to prepare before natural and man-made disasters - Contribution of private organizations to reduce risks of crisis - Creation of public informing network to prepare for natural disasters - Distribution of brochures to inform people about crisis - Creation of local potentials such as fire stations and flood prevention - Standardization of civil projects architecture according to importance	- Unawareness of citizens from emergency activities in case of crisis before, during and after that - Activities done in natural disasters are not standard
<b>Ecologic</b>	- Construction of sand dam to save water and control flood - Building farms on the way of returning floods - Organizing watercourses coming into villages and towns - Locating spots likely to face flood - Exploring slopes to control floods of the area	- Short life of water plants and facilities - Severe corrosion of soil resources - Increase in damages caused by flood to infrastructures
<b>Transportation and</b>	- Broadening of main passages in city for	- Intensity of crisis and late aid

<b>communication</b>	<ul style="list-style-type: none"> <li>emergency evacuation</li> <li>- Creation and maintenance of an emergency communication network</li> <li>- Locating spots for landing helicopters to transport people</li> <li>- Creation of appropriate infrastructures for roads especially in case of flood</li> <li>- Exploring passages of evacuating, aid and planning based on that</li> </ul>	<ul style="list-style-type: none"> <li>groups because of traffic in and out of cities</li> <li>- The communication network is out of service in crisis</li> </ul>
<b>Body</b>	<ul style="list-style-type: none"> <li>- Fortification of state and private buildings</li> <li>- Planning function of lands for some areas of Nazar Abad that are on fault</li> <li>- Rebuilding old structures especially in old textures</li> <li>- Rebuilding civil services such as electricity, water, cooling and heating facilities</li> <li>- Allocation of temporary accommodations in crisis in towns and villages of Nazar Abad</li> <li>- Locating spots for temporary hospitals in towns and villages of Nazar Abad</li> <li>- Dividing Nazar Abad to several body parts for ease of crisis management operations</li> </ul>	<ul style="list-style-type: none"> <li>- Unawareness of citizens about emergency activities in crisis</li> </ul>
<b>Management</b>	<ul style="list-style-type: none"> <li>- Determination of appropriate structure for crisis management in Nazar Abad</li> <li>- Coordination of organizations related to crisis</li> <li>- Formation of technical organization under control of municipality that has suitable training in excavation, removing ruins and aids</li> <li>- Forming local crisis management offices</li> <li>- Supporting crisis management maneuvers by related organizations</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of coordination between management and operational organizations in crisis</li> <li>- Lack of a specific plan for after crisis and confusion of aid groups</li> <li>- Lack of coordination between municipality and local entities in town in case of crisis</li> </ul>

## 7. Analysis of data and prioritization of factors

As it is visible in charts 1 & 2, in the area under study, 13 domestic power points against 19 weak points and 31 external opportunities against 14 threats were recognized and analyzed. Totally, 44 power points and opportunities as advantages and 33 weak points and threats as disadvantages and limitations for crisis management in Nazar Abad. In conclusion we can say that the threshold of vulnerability of crisis management in Nazar Abad is high and requires revision and suitable policies to remove weak points and threats by the use of power points and opportunities.

In addition to this, by the use of questionnaire major advantages and limitations of the lake in order to prioritizing options in view of people in Nazar Abad and officials and experts related to crisis management are analyzed so that in addition to making this approach shared, we can draw the conclusion in a more quantitative, logical and basic way. According to the stated opinions, priorities are given in charts 3 & 6. This chart gives the sum of weights, score average and relative weight of each power point, weak point, opportunity and threat in the view of answerers. It should be noted that in this research, factors were analyzed in six groups of economical, social-cultural, ecological, transportation and communication, body and management with five degrees of intensity (very high, high, medium, low, very low). Now we concentrate on analysis and description of each power point, weak point, opportunity and threat in the view of answerers according to the charts.

### 7.1. Officials and experts of offices and civil experts

SWOT analysis shows that in opinion of officials, the element "existence of planning for the whole province Alborz" with score average of 1.12 and importance coefficient of 0.132 is the most important domestic power point and after that "up-to-date geographical and climate information in the area against dangers of natural crises" with score average of 2.37 and importance coefficient of 0.105 in the second level of importance in crisis management of Nazar Abad.

In addition, in opinion of officials, the element "fortifying government and private buildings" with score average of 1.21 and importance coefficient of 0.140 is the most important external opportunity. While the element "distribution of brochures to inform people about crisis" with score average of 29.68 and importance coefficient of 0.002 is the least important external opportunity in crisis management of Nazar Abad.

About domestic weak points, officials believe that the element "inequality in distribution of emergency services and safety among Nazar Abad and its villages" with score average of 1.27 and importance coefficient of 1.41 is the most important domestic weak point. And the element "lack of allocating long-term loans to citizens to fortify buildings" with score average of 18.83 and importance coefficient of 0.013 is the least important domestic weak point in crisis management of Nazar Abad.

Apart from this, the factor "unawareness of people from essential activities in crisis and before and after it" with score average of 1.29 and importance coefficient of 0.140 is the most important external threat for crisis management of Nazar Abad. also, the factor "increase of damages caused by disasters such as flood to the infrastructure of social development" with score average of 2.12 and importance coefficient of 0.109 is the next most important external threat in crisis management of Nazar Abad while the factor "intensifying crisis and late aid groups due to traffic in and out of town" is the least important threat in crisis management of Nazar Abad.

### 7.2. People living in Nazar Abad

SWOT analysis reveals that in the opinion of people in Nazar Abad, the element "existence of telecommunication center in all villages of Nazar Abad" with score average 1.26 and importance coefficient 0.137 is the most important domestic power point and after that "Up-to-date ecological and climate information of the area to confront possible natural disaster crises" with score average 2.29 and importance coefficient 0.069 is the second important factor in crisis management in Nazar Abad. On the other hand, "formation of a fund to confront before, during and after crisis" with score average 12.68 and importance coefficient 0.032 is the least important factor.

Also, the element "analyzing evacuating ways and aid and planning based on that" with score average 1.18 and importance coefficient 0.137 is the most important external opportunity while "distribution of brochures to inform people about crisis" with score average 29.89 and importance coefficient 0.001 is the least important external opportunity for crisis management of Nazar Abad.

About domestic weak points people believed that "inequality in distribution of emergency services and safety" with score average 1.23 and importance coefficient 0.140 is the most important domestic weak point "lack of risk-measuring maps to help crisis managers especially in the local" with average score 18.93 and importance coefficient 0.011 is the least important domestic weak point in crisis management of Nazar Abad.

Chart 3- power points in SWOT analysis in crisis management of Nazar Abad

Power points in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-1	Importance coefficient	Harmonic score	score	Score average	weight-1	Importance coefficient	Harmonic score	score
formation of a fund to confront before, during and after crisis	10.78	2.5	0.055	0.32	11	12.68	1	0.032	0.15	13
- Insuring some citizens for flood by the government and insurance company	8.88	3.5	0.062	0.47	9	10.17	2.5	0.056	0.37	10
Budgeting for planning crisis management by the government	5.87	4	0.076	0.62	6	5.83	4	0.073	0.61	6
Training private companies to prepare for before, during and after	10.23	3	0.058	0.39	10	9.13	3	0.065	0.45	9
- Training fire fighters to stop fire	6.56	4	0.070	0.61	7	8.14	4	0.062	0.51	8
Voluntarily activities of some citizens to confront crisis	12.47	1	0.038	0.16	13	11.69	2	0.045	0.26	12
Up-to-date ecological and climate information of the area to confront possible natural disaster crises	2.37	5	0.015	0.84	2	2.29	5	0.096	0.81	2
existence of planning for the whole province Alborz	8.05	4	0.067	0.53	8	6.82	4	0.071	0.63	7
Specifying several locations for temporary accommodation by the municipality	2.98	4.5	0.097	0.76	3	3.09	5	0.090	0.74	3
- Existence of telecommunication centers in all towns and villages	1.12	5	0.132	0.89	1	1.26	5	0.137	0.83	1
Forming a network of observation in the province	4.06	4.5	0.092	0.73	4	4.86	4.5	0.080	0.61	5
- Youth in the crisis management organization	11.73	2	0.046	0.28	12	11.12	2	0.051	0.34	11
Existence of crisis management guidelines for different areas of Alborz according to the size of risk	4.93	4.5	0.085	0.66	5	4.13	4.5	0.083	0.62	4

Chart 4- weak points in SWOT analysis of crisis management of Nazarabad

weak points in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-15	Importance coefficient	Harmonic score	score	Score average	weight-15	Importance coefficient	Harmonic score	score
- Not giving long-term loans to people to fortify buildings	18.83	1	0.013	0.11	19	18.25	1	0.015	0.12	<b>18</b>
- Living in old buildings because of financial issues	7.86	4	0.075	0.60	8	9.12	3.5	0.071	0.57	<b>9</b>
Lack of coordination between banks and financial institutes with public service departments such as electricity, transportation	18.31	1	0.016	0.13	18	17.22	1	0.017	0.15	<b>17</b>
- Lack of financial approaches and credits to reduce the risk of future crises in town	5.92	4	0.091	0.70	6	3.13	4.5	0.122	0.80	<b>3</b>
Lack of financial funds to form aid groups	6.68	4	0.083	0.65	7	13.34	1	0.025	0.29	<b>13</b>
- Lack of training citizens for emergency evacuating	4.95	4.5	0.101	0.76	5	4.17	4.5	0.113	0.80	<b>4</b>
Overpopulation in old textures	10.11	3	0.065	0.49	10	4.89	4.5	0.107	0.77	<b>5</b>
Lack of independent researches by local educational institutes about natural phenomena such as rain, flood, tornado, volcano and etc.	10.96	2.5	0.060	0.42	11	14.13	1	0.024	0.24	<b>14</b>
- Lack of appropriate vegetation especially on heights in order to stop floods	8.97	3.5	0.072	0.55	9	7.94	4	0.072	0.65	<b>8</b>
- Lack of saving water by aquiferous	17.29	1	0.018	0.16	17	16.05	1	0.019	0.17	<b>16</b>
- Existence of narrow roads in Nazar Abad and other villages especially in old structures	11.85	2	0.05	0.37	12	10.23	3	0.061	0.54	<b>10</b>
Lack of emergency communication network in villages of Nazar Abad	13.55	1	0.028	0.26	13	11.09	2.5	0.058	0.52	<b>11</b>
Lack of asphalt roads in some of villages that increase the danger of flood	14.34	1	0.025	0.23	14	11.97	2	0.052	0.47	<b>12</b>

The rest of chart 4

Closeness of old textures especially in villages to faults	4.06	4.5	0.118	0.83	4	2.19	5	0.131	0.90	2
- Inequality in distribution of emergency services and safety among Nazar Abad and villages	1.27	5	0.141	0.91	1	1.23	5	0.140	0.93	<b>1</b>
- Lack of automatic gas-outage system in the area	14.34	1	0.022	0.21	15	15.11	1	0.020	0.20	<b>15</b>
Existence of spontaneous settlements in Ahmad Abad, Najm Abad Tonkaman and Nazar Abad	3.04	4.5	0.125	0.82	3	6.86	4	0.081	0.69	<b>7</b>
Lack of control and observation on construction the town	2.23	5	0.135	0.86	2	5.91	4	0.086	0.72	<b>6</b>
Lack of risk-measurement map to help local crisis managers especially in the local	16.06	1	0.020	0.19	16	18.93	1	0.011	0.10	<b>19</b>

Chart 5- opportunities in SWOT analysis of crisis management of Nazar Abad

Opportunities in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-15	Importance coefficient	Harmonic score	score	Score average	weight-15	Importance coefficient	Harmonic score	score
- forming fund to confront before, during and after crisis	23.12	2	0.007	0.23	23	22.31	2	0.006	0.24	22
- Increase of budget and fund to support crisis management of Nazar Abad financially	21.66	2.5	0.007	0.25	22	21.46	3	0.007	0.26	21
Financial support from state and government such as Central Bank, municipality and other banks	7.26	4.5	0.037	0.64	7	6.14	5	0.047	0.68	6
- Creation of public informing network to prepare before natural and man-made disasters	7.98	4.5	0.031	0.58	8	10.11	4	0.025	0.50	10
- Contribution of private organizations to reduce risks of crisis	6.06	5	0.048	0.69	6	18.10	4	0.011	0.32	18
distribution of brochures to inform people about crisis	29.68	1	0.002	0.13	30	29.89	1	0.001	0.11	30
- Creation of local potentials such as fire stations and flood prevention	10.13	4.5	0.026	0.52	10	7.93	4	0.033	0.59	8
Standardization of planning civil construction according to importance	9.07	4.5	0.028	0.54	9	7.12	4	0.036	0.62	7
- Construction of sand dam to save water and control flood	24.45	1.5	0.0006	0.22	24	23.04	2	0.006	0.21	23
- Construction of sand dam to save water and control flood	25.16	1.5	0.005	0.20	25	26.35	1.5	0.004	0.17	26
Organizing watercourses coming to villages	20.73	3	0.008	0.28	21	24.17	1.5	0.005	0.20	24
Locating spots likely to flood	4.96	5	0.055	0.73	5	11.27	4	0.021	0.48	11

The rest of chart 5-

Opportunities in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-15	Importance coefficient	Harmonic score	score	Score average	weight-15	Importance coefficient	Harmonic score	score
Exploring slopes to control floods of the area	11.11	4.5	0.023	0.51	11	9.16	4	0.026	0.51	9
- Broadening of main passages in city for emergency evacuation	12.23	4.5	0.021	0.48	12	13.16	4	0.017	0.42	13
Creation and maintenance of an emergency communication	19.76	3.5	0.009	0.30	20	19.13	3	0.009	0.30	15
- Locating spots for landing helicopters to transport people	26.10	1.5	0.005	0.19	26	25.37	1.5	0.0005	0.18	25
Fortifying government and private buildings	1.21	5	0.140	0.90	1	5.20	5	0.052	0.70	5
Exploring roads of evacuation and aid and planning based on them	4.11	5	0.074	0.82	4	1.18	5	0.137	0.86	1
- Creation of appropriate infrastructures for roads especially in case of flood	1.95	5	0.095	0.88	2	4.25	5	0.074	0.80	4
Planning for function fields in Nazar Abad that are under the effect of faults	13.09	4	0.020	0.45	13	12.43	4	0.020	0.46	12
- Rebuilding old structures especially in old textures	3.04	5	0.083	0.85	3	1.98	5	0.091	0.85	2
- Rebuilding civil services such as electricity, water, cooling and heating facilities	27.24	1.5	0.005	0.17	27	28.17	1	0.0004	0.15	28
Specifying several locations for temporary accommodation in villages of Nazar Abad	14.02	4	0.019	0.42	14	3.15	5	0.078	0.78	3
- Locating spots for temporary hospitals in towns and villages of Nazar Abad	28.05	1.5	0.004	0.16	28	29.28	1	0.003	0.13	29

The rest of chart 5-

Threats in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-15	Importance coefficient	Harmonic score	score	Score average	weight-15	Importance coefficient	Harmonic score	score
- High economical expenses due to uncoordinated crisis management in Nazar Abad	13.01	2.5	0.021	0.387	13	9.16	4	0.037	0.489	9
- Shortage of budget to rebuild infrastructures after crisis	9.07	4	0.041	0.523	9	8.05	4	0.049	0.545	8
High financial damage caused by destruction of buildings after flood in towns and villages	7.87	4	0.054	0.570	8	4.11	5	0.079	0.82	4
- Unawareness of citizens from emergency activities in case of crisis before, during and after that	1.29	5	0.140	0.92	1	4.86	4.5	0.072	0.77	5
Activities done in natural disasters are not standard	9.89	4	0.037	0.485	10	6.99	4.5	0.066	0.67	7
- Short life of water plants and facilities	10.78	3.5	0.031	0.465	11	12.35	3	0.025	0.337	12
Severe corrosion of soil resources	12.13	3	0.028	0.431	12	13.54	2.5	0.017	0.324	13
increase of damages caused by disasters such as flood to the infrastructure of social development	2.12	5	0.109	0.88	2	13.75	2	0.011	0.255	14
- Intensity of crisis and late aid groups because of traffic in and out of cities	13.86	2	0.017	0.276	14	6.38	4.5	0.067	0.72	6
The communication network is out of service in crisis	2.90	5	0.089	0.83	3	1.27	5	0.138	0.91	1
- Unawareness of citizens from emergency activities in case of crisis before, during and after that	4.02	5	0.081	0.79	4	10.11	4	0.031	0.464	10
- Lack of coordination between management and operational organizations in crisis	4.96	4.5	0.076	0.75	5	2.09	5	0.115	0.89	2
- Lack of a specific plan for after crisis and confusion of aid groups	6.07	4.5	0.068	0.68	6	2.95	5	0.081	0.85	3
Lack of coordination between municipality and local entities in town in case of crisis	6.94	4.5	0.061	0.60	7	11.25	4	0.026	0.423	11

Chart 6- threats in crisis management in SWOT analysis of Nazar Abad

Opportunities in SWOT analysis	Officials and experts					People of Nazar Abad				
	Score average	weight-15	Importance coefficient	Harmonic score	score	Score average	weight-15	Importance coefficient	Harmonic score	score
Dividing Nazar Abad to several body parts for ease of crisis management operation	18.38	3.5	0.010	0.32	19	20.37	3	0.008	0.29	20
Determining suitable structure for crisis management of Nazar Abad	15.16	4	0.016	0.39	15	14.27	4	0.016	0.39	14
Coordinating organizations related to crisis management	16.14	4	0.014	0.37	16	15.28	4	0.015	0.38	15
- Formation of technical organization under control of municipality that has suitable training in excavation, removing ruins and aids	29.13	1	0.003	0.15	29	27.14	1	0.004	0.16	27
Formation of local crisis management offices	17.17	4	0.013	0.36	17	16.26	4	0.013	0.36	16
Supporting crisis management maneuvers by related organizations	18.14	4	0.012	0.34	18	17.20	4	0.012	0.34	17

## 8. Conclusion

Totally, 44 power points and opportunities as advantages and 33 weak points and threats as disadvantages and limitations for crisis management in Nazar Abad. In conclusion we can say that the threshold of vulnerability of crisis management in Nazar Abad is high and requires revision and suitable policies to remove weak points and threats by the use of power points and opportunities. In opinion of officials, existence of planning for the whole province Alborz is the most important power point in crisis management of Nazar Abad and fortifying government and private buildings is the most important external opportunity. They believe that Inequality in distribution of emergency services and safety among Nazar Abad and villages is the most important domestic weak point and “Unawareness of citizens from emergency activities in case of crisis before, during and after that” is the most important external threat for crisis management of Nazar Abad.

In opinion of citizens, Existence of telecommunication centers in all towns and villages is the most important power point and “Exploring passages of evacuating, aid and planning based on that” is the most important external opportunity. About domestic weak points, officials believe that Inequality in distribution of emergency services and safety among Nazar Abad and villages is the most important domestic weak point.

The out-comes of this research show that in the view of both people and officials, environmental elements are not the most important factors in crisis management, therefore, the hypothesis of this research is rejected.

## REFERENCES

- Tan Bergi, Diodione (1994), crisis management, translated by Ali Zolfagari, first publish, Hadis Tehran press.
- Anbari, Musa (2004), analysis of theoretical approaches in disaster aid management in Iran, collection of first scientific conference, research of aid and rescue management, Tehran.
- Hasani, nemat (2005), the necessity of revision of earthquake crisis management in Iran, collection of article of Iran & Japan, issue 298, management and planning organization press.
- Abdollahi, Majid (2001), crisis management in rural areas, the organization of municipalities of Iran, first publish.
- Ghanavati, Ezatollah, Ghalami, Shabnam & Asghar Abdollahi (2009), enabling civil crisis management to reduce natural disasters (earthquake). Sample: Khoramabad.
- Azizpur, Malake, Zangiabadi, Ali & Zahra Esmailian (2011), prioritization of effective factors in civil crisis management against natural disasters (case study of organizations related to crisis in Isfahan).
- Saeednia, Ahmad (1999), functions of rural land, ketabesabz, volume 2, civil planning study center, first publish.
- Rashidi, Masume, ramasht, Mohammad Hossein, Seif, Abdollah & Hadi Gharib (2001), crisis management to reduce damages caused by earthquake in Tehran, scientific magazine of aid and rescue, third year, issues 1 & 2.
- Mahmudi, Seyed Mohammad (2003), the role of information systems in crisis management, magazine of organizational culture management, period 1, issue 2.
- Shams, Majid, Masumpursamakush Jafar, Saeedi Shahram & Hossein Shahbazi (2011), analysis of earthquake crisis management in old textures of Kermanshah, case study, Feiz Abad, environmental preparation magazine, fourth period, issue 13.
- Dimitrof, Alexander (2007), crisis management, from theory to practice, the magazine of earthquake and engineering, issue 9.
- Beranda, Morphy & Dallen Hally (2003), crisis management and social investment, social welfare magazine, issue 11.
- Ambraseys, N& Melville, C. P, (2005). A History of Persian Earthquakes, Cambridge Earth Science Series.
- Weitzel, G& johnson, J (1989) . “Managing Crisis”, London, Unwin Publications. - lippitt, T & \_schmidt, I(1992) Transforming the crisis prone. Organization, Sanfrancisco, Gossey – Bass Press.
- Montoya Morales, Ana Lorena, (2006),” Urban disaster management: A case study of earthquake risk assessment in cartago, Costarica”, ITC &University of Utrecht.