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Comparative Study of Post-disaster Reconstruction Paradigm and Iranian Experts' Perspective of Reconstruction

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Abstract

Numerous natural disasters happen in the world annually and damages resulting from disasters and their consequences on development achievements are increasing in human communities. Hence, Post-disaster reconstruction has been developed in all aspects during the last years. The present article classifies the views of experts on post-disaster reconstruction and compares this reconstruction paradigm with the reconstruction process in Iran. This research has been conducted in the theoretical principles section of post-disaster reconstruction and is done in four steps: studying the views in post-disaster reconstruction field within a thirty-years period since 1982 to 2012; analyzing the views of the post-disaster reconstruction experts; deriving post-disaster reconstruction paradigm's components using Grounded Theory method; and comparative study of post-disaster reconstruction paradigm and Iranian expert's perspective of reconstruction by in-depth interviews with 10 Iranian expert who were involved in reconstruction in Iran during that period. The first part results include paradigms: Encouraging people for participation, individuals and groups participation, Procedural planning and Proactive management. Comparing these with Iranian's experiences, shows that a systematic reconstruction plan should be based on recognition of local characteristics of region and the needs of the affected population besides the other results.

Keywords: Post disaster reconstruction, Reconstruction paradigm, Iran.

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Introduction

Numerous natural disasters happen in the world annually. In many areas, in a few seconds, the process of life in a society stops, homes and neighborhoods are destroyed, and human settlements lose their normal and daily life. In addition to destroying the physical structure of cities, natural disasters destroy communicative and service infrastructures of various urban areas. Natural disasters are associated with social, economic, physical, and environmental damages, and due to increased human population, damages resulting from disasters and their adverse consequences on survival, human status, people livelihood, and development achievements are increasing in human communities.

Natural disasters, in addition to destroying of urban structures, cause economic stagnation and social unrest, and in addition to the physical issues, make social areas involved in post-disaster reconstruction, improving preparedness and understanding of the risks to face encounter with natural disasters are essential in all aspects. Due to diversity of climatic and natural conditions, Iran is always facing with threat of natural disasters. Iran is a vast country and due to its specific climatic and environmental geographical characteristics, there is possibility of 31 types of 41 natural disasters known in the world. In this regard, floods and earthquakes have the highest frequency. Therefore, the need to restore life to the community affected by natural disaster makes post-disaster reconstruction as the priority of the community in the process of urban development. Because of the need for immediate actions, post-disaster reconstruction is relatively experienced area in the Iran's urban development. However, knowledge area in this regard has no theoretical definitions and categories. Rising number of natural disasters in this area and consequently loss of life and financial damages have caused researchers to be active in this field. However, theoretical frameworks of reconstruction have not been developed comprehensively, and merely scattered and localized solutions have been provided in fields related to social sciences and urban planning and development. Purely physical reconstruction has been influenced by other sciences over time and many cases ranging from social sciences to reconstruction management have been added to reconstruction knowledge. Therefore, many texts of reconstruction have been multi-dimensional, and they include different views of experts in this area. Post-disaster reconstruction has been developed in all aspects during the past thirty years. To find influencing factors and process in post-disaster reconstruction in physical and planning dimension, it seems to be necessary to recognize management and social factors affecting the reconstruction. Therefore, the present article classifies the views of experts on post-disaster

reconstruction and thereby examines the reconstruction process from the paradigm perspective.

Methodology

This article implements descriptive methodology. At first the views of experts were selected based on differences and change in attitudes and in accordance with the thirty-year period—since 1982 to 2012. Then applying in-depth interview with 10 persons who were involved in reconstruction in Iran during that period, we concluded some important lesson learned related to Iran's reconstruction.

This research was conducted in four steps:

- Studying the views in post-disaster reconstruction field;
- Analyzing the views of the post-disaster reconstruction experts;
- Deriving post-disaster reconstruction paradigm components—using Grounded Theory method;
- Comparative study of post-disaster reconstruction paradigm and Iranian expert's perspective of reconstruction—by in-depth interviews.
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Studying the views in the post-disaster reconstruction field

Studying the views in the area of post-disaster reconstruction during those thirty years, the current study aims to find different steps in post-disaster reconstruction based on management and social subjects. For this purpose, the views of 12 experts in the post-disaster (the stages of post-crisis and temporary accommodation) were investigated and the physical, social and managerial components were classified. Then, major changes in attitude toward priorities in post-disaster reconstruction plan were classified. Accordingly, post-disaster reconstruction included four steps as follow:

A) The view of encouraging people for participation: a managerial approach to social issue

Post-war and post-disaster reconstruction causes many unpredicted problems for society. Most of reconstructions after World War II have been done by relying on power beyond the power of people and a top-down approach in the processes of management. This approach explained by facilitating the performing the tasks and accelerating the reconstruction and thus begin to live by affected people has been faded over time. One of the first texts criticized the

government's authoritarianism in the process of reconstruction is a document developed by the United Nations in 1982. In this report, two groups of avoidance policies and applied policies have been defined (United Nations, 1982). For this purpose, performing any task leading to repeat in efforts of survivors—such as sending labor to reconstruct in case of local labor and providing materials, supplying local materials as possible, has been rejected. This document has rejected the forced evacuation of people, especially women and children. Additionally, resettlement of survivors in the land away from work centers, markets, schools and other social and economic needs considered incorrect.

In another part, the policy of creating large camps is rejected due to inconsistency with social and environmental efforts. Accordingly, one in charge of post-disaster reconstruction is obliged to provide materials, tools, and communication means for voluntary evacuation of the affected location. On the other hand, he should create an interest in people to participate in the evaluation of needs and resources needed (United Nations, 1982).

B) The view of individuals and groups participation in reconstruction: a social approach

This approach, which is considered in several studies, represents a social approach to the physical aspect of post-disaster reconstruction. The texts that have studied "physical rehabilitation and reconstruction" in the post-disaster reconstruction include the views of urban sociologists and urban planners, and they have referred to role of social relationships in the reconstruction and local communications. Reviewing articles on disasters written by Drabek during 1971 to 2005 (Drabek, 1970; Drabek and Key, 1976; Drabek et al., 1981; Dynes and Drabek, 1994) reveals that Drabek has emphasized on impact of systems and social networks in the reconstruction and by giving social dimension to reconstruction phenomenon. He believes that reconstruction should create security and livelihood and empower the society. In an article titled as "The Impact of Disaster on Primary Group Linkages" published in 1976, Drabek examined the social effects in the post-disaster reconstruction. From his perspective, post-disaster outcomes depend on pre-disaster condition in involving the social systems (Drabek, 1976). The results of this classification suggest that reaction of society is affected by its structure. Therefore, he believes that readiness activities and mitigation of disaster effects can reduce costs and consequences at the community level. He also believes that disaster planning should empower people and material resources of social units rather than putting an importance to order and control people.

Considering the participatory approach in the reconstruction, (El-Masri and Kellett, 2001) have defined two common approaches in urban and social decisions namely top-down

approach or approaches based on acceleration. They reject standardization and technical solutions and also consider mass production of houses based on pre-fabricated technology as one of the problems arising from the destruction of a large-scale disaster and displacement of people. Then, they conclude that confronting methods that are not developed from bottom to top cannot create worthy and suitable residential units after the disaster (El-Masri and Kellett, 2001).

In another article presented in a seminar titled as the Regional Workshop on Best Practices in Disaster Mitigation in 2002 by Lorna Victoria, the subjects of "using social development to mitigate the effects of community-based disaster", "use of traditional organizations and mechanisms of formal and informal leaders", and "capacity-building activities to help disaster committees, communities and volunteers" have been considered (Victoria, 2002). Thus, in addition to administrative aspects (using organizations and managers' performance mechanisms), capacity building by multi-sectorial incorporating of organizations, communities and volunteers (which requires the presence and participation of people) has been considered. The process of paying attention to social issues in the form of participation and empowerment has been completed over time.

After 20 years of UN document, in an article on housing reconstruction in Kosovo in 2002 Minervini (2002) has presented the following guiding principles for post-disaster reconstruction:

- Relying on capacity building, coordination, mobility and convergence in management organizations of city;
- Support from organizations and NGOs to implement housing reconstruction projects in any way;
- Changing and stabilizing the beneficiaries of reconstruction to help in better implementing the reconstruction process;
- To ensure that plans will meet the current needs.

In his guiding document, he has also referred to cross-sectional reconstruction, relation and diversity of projects, national and local initiatives, and the development of viable and sustainable strategies to increase vitality and strengthen the livelihood of residents. He has criticized the emphasis of reconstruction on physical reconstruction plans, and he believes that the key to create a sustainable reconstruction is an investment in social capital in communities

affected by the disaster (Minervini, 2002). Also, Laura Cairns (2003) has a comprehensive approach for reconstruction achieved by considering the views of individuals, paying attention to academic expertise and employment. The important point in his theories is unique solution particular for each situation and avoidance of duplication of different processes of reconstruction.

Another post-war reconstruction and post-disaster expert is Soltan Barakat. He believes that the loss of the house simply does not lead to physical deprivation, but it leads to the loss of dignity, identity and independence. This can result in psychological problems, perceived conflict of cultural identity, interruption in social structures and accepted social behavior, and it can be considered a threat to security, or it can leave industrial and the economic impacts. In contrast, the considerations and activities related to housing can enhance capacity of communities, through empowering them, in physical, emotional and executive dimensions through informal social communications. He has referred to necessity of increased self-confidence to participate in reconstruction projects and enabling affected people for investment in future (Barakat, 2003).

C) The view of procedural planning approach: a managerial approach

In his presentation, *How do Communities Recover from Disasters? A Review of Current Knowledge and an Agenda for Future Research*, Olshansky investigates procedural planning (2005). By investigating previous studies on disaster reconstruction from 1977 to 2005, he stated different sections related post-disaster reconstruction social planning approach and he examined reconstruction from four perspectives of “predictable process”, as management problem, a process of physical changes, and urban planners’ evocation. He introduced reconstruction variables in the areas of process, urban systems, physical changes, justice, money and other external resources and he introduced designing strategies as the most important factors of success in this regard (Olshansky et al., 2008). According to him, involving citizens and processes citizen-based process are important in decision-making related to reconstruction. In addition, he has referred to important role of pre-existing designs and previous planning documents that describe consensus policies for future development and planning pre-existing organizations.

In one another paper, *A Systems View of Temporary Housing Projects in Post-disaster Reconstruction*, Johnson (2006) stated that the success of reconstruction depends on solving the main issues of the reconstruction, including reconstruction planners, infrastructures

needed, goal and time of using the plan. According to him, level of participation, applying facilities, scheduling, and goals of reconstruction are important.

D) Pre-disaster planning: a proactive management approach

Among the texts studied, the most recent works have focused on the necessity of planning before the disaster. Collins approach to disaster is preventive and developmental approach. Considering social, cultural, political and economic aspects, he has comprehensive approach to the issue of disaster and its various aspects. In his book titled as *Disaster and Development* in 2009, he refers to social and policy-making problems by considering war effects and natural disasters and destruction of cultural and social structure of the city. Two sets of problems: mortality, social and cultural problems, immigration, and the destruction of jobs and economic infrastructures, lack of executive organizations, and lack appropriate legal frameworks are not only the effects of war and disaster, they inflate the destruction of the social structure of the city. Then, he introduces an ideal circle for three processes of poverty, environment, and disasters. They can be reduced by risk management, crisis readiness, and building capacity and reducing vulnerability at various levels. By solving the conflicts and reducing the disaster, the social results are improved and environmental changes, economic stability and environmental sustainability will be provided. By investigating the ratio of disaster and development, Collins refers to the role of public notification training programs and participation of all stakeholders in reconstruction process. He also thinks that it is necessary to establish urban protection teams, to review and adapt warning systems, and to design integrated program. He recommended that we might reduce the severity of disasters effects on human communities by identification of safe locations, resources needed to confront with future disasters, measuring the risks before natural disasters (Collins, 2009).

In a study titled *Why is Community Action Needed for Disaster Risk Reduction and Climate Change Adaptation?* Satterthwaite (2011) has considered the pre-disaster plan by local government and social organizations. He also emphasizes on the role of local people in decision-making, planning, implementing the designs, and adopting the active role in evaluation.

Analyzing the views of the post-disaster reconstruction' experts

Analyzing the issues discussed reveals the following points:

-The approach of reconstruction has been changed from managerial-physical approach to

managerial-social approach;

-The process of reconstruction measures has been converted from performance at the time of the disaster and after the disaster to the proactive measures;

-Although the initial plan of all post-disaster reconstruction efforts is to restore city physical structure and life in it, but the investigated theories display fundamental developments in the social and managerial aspects.

Investigation of "issues related to management" in the period studied refers to the following dimensions:

- Converting the role of one who is in charge of reconstruction supplier of labor and financial resources to empower local communities;

-Strong presence of governments, and converting of monitoring and supporting role to coordinating role for the one who is in charge of reconstruction;

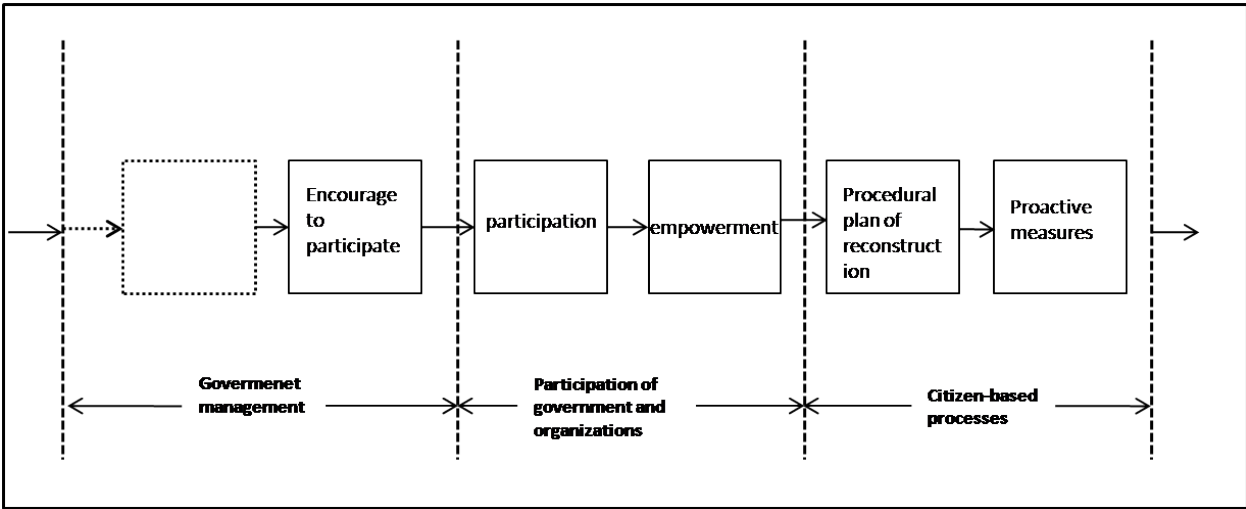
- From reconstruction efforts by the central government to local leaders;

- From monitoring to coordination among different sectors;

- From top- down to bottom-up management style;

As a result, it is seen that governmental management has been converted to participatory plans of government, institutions, and then citizen-based processes (Figure 1).

Figure 1. Process of transition in social and managerial dimensions in post-disaster reconstruction



From the beginning of codification the reconstruction documents, social issues have been changed in various sectors:

- Conversion of encouraging for participation of individuals in the estimation of needs and contributing in monitoring and evaluating in the executive steps to participation of citizens at all stages, and then assigning an active role for the local people and involving the citizens;
- Paying attention to systems and social networks, local communication and capacity building;
- Change in finding solution to use past experience for applying in local initiatives;
- The process of applying the lessons of each reconstruction experience, paying attention to academic expertise in the pre-disaster reconstruction training;

As a result, the approach of reconstruction has been changed from "social efforts of reconstruction to social networks and local communication".

Comparative study of Post-disaster reconstruction paradigm and Iranian expert's perspective of reconstruction

At this step, Iranian experts were interviewed on post-disaster reconstruction. For this purpose, reconstruction experience of two cities of Hoveyzeh³ and Mandjil⁴ was discussed. These two cities are not only representative of Iranian affected cities, but also they used two different models for reconstruction. Mandjil used creation of the necessary infrastructures and institutions with the responsibility of government and performing other remaining tasks over time. Reconstruction of Hoveyzeh is considered as a unique opportunity for the realization of development plans and applying fundamental change (Navidimajd, 2012). In addition to difference in time of reconstruction in 1980s and 1990s and difference in geographical location in north and south of country, two different types of response can be seen in the post-disaster reconstruction.⁵

³ One of the Iranian cities that destroyed completely during Iran-Iraq war and has been reconstructed as the first model in 1982.

⁴ One of Iranian cities that destroyed vastly by a great earthquake happened in 1990.

⁵ According to expert studies, the Hoveyzeh people were not satisfied with constructed houses, since they were not involved in the reconstruction and they changed the architecture of buildings (Motawaf, 1989). Due to involving in the construction of their houses, Mandjil's people were satisfied with reconstruction.

To examine the results of post-disaster and post-war reconstruction in Iran, 10 experts in the reconstruction area were interviewed, included:

- One policy-maker (Minister of Housing)
- Four academic reconstruction experts (post-disaster reconstruction professors)
- Five executive managers (working in the Islamic Revolution Housing Foundation)

Discussions were formed based on theoretical studies results and around social, management, and physical issues in post-disaster reconstruction and experts expressed their views on details of reconstruction. In total, 10 interview sessions were conducted with more than 16 hours of discussion. The interview text analysis was conducted through Grounded Theory method. So, four major post-disaster reconstruction paradigms were developed based on previous theoretical studies.

- The application of the view of encouraging people to participate

One of the executives in the reconstruction of the Mandjil spoke on the impact of psychological and social factors in different phases of reconstruction. He claimed that the key for successful reconstruction of Mandjil and Rudbar related to local people participation and involvement in the process of reconstruction. According to him, comprehensive plan of reconstruction was developed based on knowledge of experts, and the effect of events took place in the workflow had value equal with initial plan, for example stimulating people achieved over time based on field work. In spite of experiencing valuable acquired reconstruction in reconstruction of war-torn areas, this approach had no usage in the post-war reconstruction since war-torn areas have been evacuated by people, and in this experience, for the first time in Iran, the reconstruction was used immediately after the earthquake.

- The application of participation and empowerment approach

This approach was proposed by those who believed that mental model in regulating the space is not same for different people, nations, villages and cities. During the one of the interviews, one of the post-disaster reconstruction experts stated that as we are dealing with people in the disaster, reconstruction has individual dimension and some concepts are manifested among the members of family and neighborhoods, beyond individuals or individuals. As a result,

reconstruction involves social dimension. Three university professors state that it is essential to consider social custom in the post-disaster reconstruction. They also refer to effects of real attention to people and recognizing local features such as recognition of society and information and culture level of people. From their perspective, the lack of success in reconstruction of war-torn Hoveyzeh compared to Mandjil reconstruction is lack of attention to role of injured person in reconstructing his house. In addition, in the assigning the role for individuals and groups, paying attention to culture of any region is valuable. For example, the pattern of running the family varies in south and north of Iran. Therefore, the role assigned for people in the Mandjil cannot be defined in the Hoveyzeh. The Ministry of Housing at that time also stated that lack of attention cultural attachments and personal ownership in reconstruction of ruined places was the cause of these problems. Stating that reconstruction is social not technical way, he considered the reconstruction responsibility before reconstruction planning as recognizing the social organization of the affected region. In fact, he believed that an impossible part of post-disaster reconstruction is how people behavior that is reflection of social organization of that society and it does not take place haphazardly. In regard one of the professors states that the tendency of engineered thinking to physical structure is one of the problems in this regard and it strongly neglects the tangible and non-tangible aspects of life. According to one another post-disaster reconstruction professors who had experience of reconstruction during the war, reconstruction plan of Hoveyzeh has not been accepted due to lack of attention to type of common urban life in this city and structure of family and relations among the individuals, since the aim of reconstruction in city is providing house for people regardless of household size and demographic composition of the family. This is exactly the point that the experts named it as inefficiency of Hoveyzeh reconstruction, and he states that when you put yourself to someone else's place and you decide on his behalf, he will have no sense of belonging to what you have reconstructed. If people made their houses themselves, there was no problem of lack of presence, lack of settlement, lack of reconstruction of economy of the region, lack of formation of social life in the region. In fact, the goal of reconstruction is not rebuilding the houses and physical structure, but reconstruction of social life and social organization is important.

- The application of procedural planning approach

The policy governing on the reconstruction of Mandjil earthquake, according to Housing Minister at that time, was paying attention uniqueness of every location affected and therefore the necessity of recognizing the needs of the local people in the proper planning of the post-disaster reconstruction. He rejects intervention-based approach with higher political power and the justified appearance due to the lack of belonging of residents of the city in the future. Accordingly, the theoretical bases of Mandjil reconstruction management are assigning the responsibility and management for person injured and considering him at the center of reconstruction (injured-centered approach). According to him, to exploit reconstructed houses after the disaster, social issues such as social organizing, citizenship rights, human rights, and basic rights are in priority compared to technical issues since they lead to correctly directing and managing of physical resources. Executive managers of reconstruction also have multi-dimensional view due to the presence in the earthquake-affected areas and higher public communications relations in the reconstruction phase, and they have referred to organizing of policies at the macro level in the post-disaster reconstruction. They also emphasized on necessity of reasonable comprehensive plan reasonable, defining reconstruction plans based on realities and needs of the local population (prejudices, associations and communities). The positions of reconstruction after the earthquake in Gilan province were discussed among the main problems of the reconstruction in Iran. They criticize the dominant thinking style of governmental management and intervention rather than to help victims of disasters. In addition, the process of reconstruction is operational since it is result-oriented, and due to lack of fundamental guiding theory and interest of organizations and people to attend in the affected area (to provide technical knowledge, facilities, and money according to conventions of Iran's society), it causes chaos in the reconstruction process. One of the executive managers refers to obstacles of reconstruction at the management dimensions and knowledge weakness in this regard. He also thinks that using previous experiences and previous reconstructions lessons or teachings have been important in the Mandjil reconstruction. He also warns against lack of people knowledge of city structure in this regard. The developmental process of teachings in the reconstruction by each of three classes of professors, managers, and policy-makers was emphasized. The other issues emphasized by professors included conversion of the government role from totally responsible role to

facilitator role and governing the spirit of realism after the end of the war, seeing the real problems of affected people and an expectation in people to reconstruct by the government.

- The application of proactive management approach

One of the reconstruction professors believes that while there is similarity in the reconstructions due to similarity among the audiences, individual units of affected structures vary due to difference in type of views and wants of people living there. As a result, lack of paying attention to behavioral pattern of residential houses residents and lack of coordination among managements and long process to recognize social aspects of affected structures, results will not be desired. In fact, to consider reconstruction process as an operational approach prevents us to study affected society traits profoundly. Therefore, this process should be started already. Paying attention to various aspects of post-disaster reconstruction is very important.

Conclusion

The main emphasis of experts is on lack of participatory perspective in executives of reconstruction plan on post-war reconstruction in the Hoveyzeh city. They agree that not involving local people in the reconstruction plans led to further problems and lack of acceptance of house by them. However, adopting a reconstruction approach without presence of people in the post-war reconstruction in Iran is considered valuable due to evacuation of the region by war-torn people and insecurity in the war-torn region to accelerate the life for city. In general, the following issues are considered as post-war reconstruction lesson-learned in Iran:

- Rejecting the top-down approach to reconstruction;
- Necessity of targeting and implementation of reconstruction based on local knowledge;
- The priority recognizing the social issues in the physical reconstruction;
- Importance of presence and role of local people;

The central narrative line of interviews with experts in the reconstruction of Mandjil is assigning the main role for people, and monitoring and support by government as main responsible ones of reconstruction. According to this study, main teachings and lessons of the Mandjil reconstruction are as follows:

- Defining guiding policy and decentralized structure of reconstruction;
- The necessity of understanding, knowledge and experience;
- Using capacity of people, local committees and social networks;

The reconstructions of Mandjil and Hoveyzeh display realities in Iran's post-disaster reconstruction. Post-disaster reconstruction is experienced highly in various regions of Iran. This issue makes it possible to use positive points of previous reconstruction experiences. Using views expressed by Iranian experts, we concluded that it is very important to use post-war reconstruction lessons and teachings in reconstructing the natural disasters and to assign the responsibility of reconstruction for local people within constitutional and legal norms. In addition, developing a comprehensive and systematic reconstruction plan based on knowledge and recognition of local characteristics of region affected needs of the affected population in the short term after the disaster, and efforts to implement the aforementioned plan are results obtained from the continuum of experiences.

Mandjil reconstruction has used all three approaches of encouraging people to participate, empowering local people, and procedural planning:

- When talking about bringing people to the scene and creating enthusiasm in reconstruction of housing, the first view is taken into consideration;
- When trying to allocate funding and to transfer building materials for the construction of personal housing, the second approach is used;
- The reconstruction plan developed by efforts of experts is a systematic and procedural approach, the third approach.

What is seen in the views of Iranian experts in addition to information stated in the first section of the study is the necessity of developing a reconstruction plan based on affected and

injured person discussed as necessity of base theory in the social sciences area. There are many differences among cultures of different regions in Iran. This fact makes it necessary to know individual behavior of people of a community affected by disaster to select appropriate approach for reconstruction there in the big cities of Iran. To achieve preventive reconstruction goal, the process of social studies should start in various urban regions before any possible disaster. In other words, to select an approach appropriate to any community, it is necessary that reconstruction to be conducted based on location, needs and base theory.

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