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**Temporary Housing Model Based On Grounded Theory Method
(Case Study: the City of Sarpol-e Zahab, after the November 2017 Earthquake)**

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(Received 07 September 2019 – Accept 19 November 2019)

Abstract

Severe earthquakes always disrupt people's lives by damaging the residential sector. In the process of disaster resettlement, after the emergency, shelter phase in the first weeks until permanent housing usually, takes one to two years, temporary housing is needed to resettle people and return them to normal life. Despite the effective role, this period has played in the process of community recovery. In past experiences especially urban disasters, have often been neglected and accompanied by economic, social, and environmental challenges.

The purpose of this study is to present a model of temporary housing through a comprehensive and systematic view of the constituent dimensions and its influencing factors. For this purpose, with the exploratory approach, and the qualitative method of the Grounded Theory, the temporary housing process in Sarpol-e zahab was studied simultaneously during the year and a half of the November 2017 earthquake. Research data were collected through participatory observation and in-depth semi-structured interviews with 78 key informants including officials, experts, local informants, and people. Theoretical and purposeful sampling continued until theoretical saturation and data were analyzed by MaxQDA software in three stages of open, axial, and selective coding, extracting 33 axial issues and selecting the core issue as "Transitional settlement", the final model is presented.

The findings of the study indicate that the topic of post disaster temporary housing is an easy and hard issue that, despite the prevailing assumption, has many complexities. The main challenge of "temporary housing" is related to its clear definition. The use of the word "housing" restricts the subject of physical dimension, during the period. The psychological, social and economic recovery of the affected is less addressed and the term "temporary" makes it less attentional. Therefore, the model of "transitional housing" seeks to better understand it by explaining the components of temporary housing and the factors, which affecting it. From a systemic perspective, the temporary accommodation process consists of the dimensions of "policy, planning and management of transitional settlement, designing and implementing temporary

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housing, and dismantling" that affected by three categories of "disaster conditions", "context characteristics" and "Intervening systems" such as "safety culture, crisis management system, emergency and permanent housing, donors, insurance, media and economic and political pressures". According to the results, the most fundamental strategies to improve future programs are to adopt a holistic and process-based approach transitional resettlement (from emergency to permanent) and pre-disaster planning in preparation phase that can enhance recovery and resilience of the community.

Introduction

After any destructive disaster, emergency shelter is provided in the first few weeks. However, it takes more than one year the permanent housing to be prepared. So, in the meantime, "temporary housing" is provided to help people resume their life and routines. However, despite the effective role this period has played in the process of community recovery, in experiences especially urban disasters, have often been neglected and accompanied by economic, social, and environmental challenges. Researchers often attribute these challenges to the lack of pre-disaster planning and an appropriate model. Therefore, this study aims to present a temporary housing model based on the case study of Sarpol-e Zahab. Sarpol-E Zahab, located in the west of Iran, is the nearest city to the epicenter of 7.3 Richter earthquake on November 12, 2017, which suffered from 8316 residential units destroyed, and 11475 units semi-damaged. The government through two strategies of granting containers and rental assistance provided temporary housing. At the same time, large groups of charities, NGOs and some celebrities mobilized, and various plans were proposed by specialists. In addition, many affected households began to build shelters using salvaged or indigenous materials. Due to the complexity of urban issues, large number of population and tenants in Sarpol-e Zahab, the fear of frequent aftershocks, and the timeliness of reconstruction, this experience had many challenges and also worthwhile lessons to be learned.

Materials and Methods

Most previous studies were conducted after several years, examining a particular aspect, using deductive approach based on existing theories. Inversely, this research aims to study the subject coincidence with temporary housing period after 2017 earthquake in the city of Sarpol-e Zahab. It applied a systematic approach and qualitative-exploratory method of grounded theory, investigating from the perspective of different key informants to present the complexities of the temporary resettlement process in a model. Data were collected through extensive field studies and direct participatory observation of all temporary camps, and in-depth semi-structured interviews with 78 key persons including 13 officials, 19 experts, 40 local households, and 6 informants. The Theoretical

sampling was done purposefully, and ended with theoretical saturation. The process of data analysis was done by MaxQDA software in three stages of open, axial, and selective coding, extracting 33 axial issues and selecting the core issue as "Transitional settlement", the final model presented (Fig.1). To achieve the reliability of research, audit techniques and continuous data comparisons were used during investigation and analysis. In addition, procedures and contents were shared with some participants and experts to be reviewed, controlled and refined.

Discus and Results

The finding argues that the issue of “temporary housing” is an easy and complicated issue, and unlike the prevailing notion, it is not merely about providing a shelter, but there are many factors to address. The basic challenge seems to be related to its clear definition. The use of term of "housing" has often limited it to provision a house, and less attention has been given to psychological, social, and economic recovery of affected community. On the other hand, the word "temporary" makes this step inessential, as unlike emergency and permanent housing, it has not been addressed in the system of policy-making, planning and post disaster housing. While, based on findings, the temporary housing process is comprised of different components of "policy-making, strategies, financial aspect, allocation management, relocation, planning and design of temporary settlements, providing temporary housing, services and infrastructure, and dismantling". In addition, it is affected by three categories of factors: "disaster conditions", "contextual characteristics" and "intervening systems".

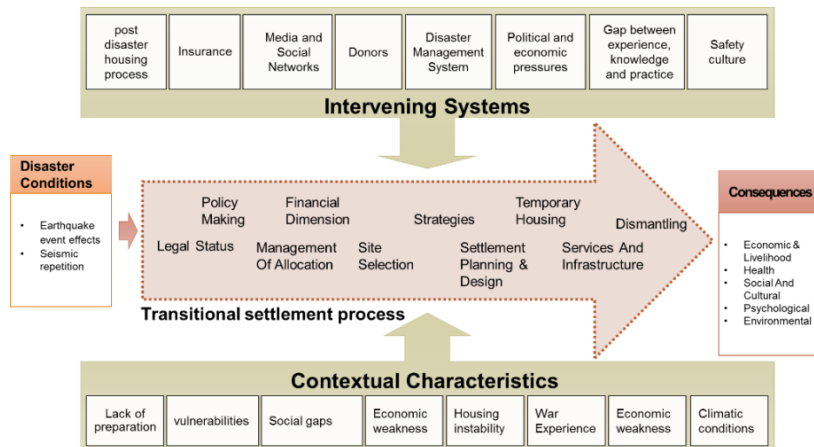


Fig. 1. Grounded Model of Transitional Settlement (Authors, 2019)

Conclusion

The concept of "transitional settlement" aims to emphasize the need to shift from temporary housing to residential complexes including housing, services and infrastructure, public spaces, and the diverse and changing needs of affected community during transitional period. The concept of "settlement" encompasses both strategies through management (such as granting rent assistants) and engineering (such as housing provision) for transitional housing. The word "transitional" also emphasizes the interrelationship between emergency, temporary and permanent resettlement measures. Based on findings, the most important suggestions to improve future plans are adopting a holistic and process-based approach to the issue of post disaster resettlement (from emergency shelter to permanent housing) and pre-disaster planning in the preparedness phase in order to promote community recovery and resilience.

Keywords: Temporary Housing, Temporary Housing, Transitional Settlement, Post-Disaster Resettlement, Sarpol-e Zahab.

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