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A Review on Urban Recovery and Reconstruction Planning in Turkey

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Abstract

Post-disaster reconstruction enforcements cause more serious problems than disasters can do, in spite of the fact that disasters affect not only physical environments, but also human life and their future. Especially, unsuccessful urban recovery policies affect the psychology of survivors, their social and cultural lives, image of the city in their memories, their daily life activities and habits.

In Turkey, the most important “Regulations on Reconstruction of Buildings in Earthquake Zones” is issued in 2007. But this regulation just only contains expectations and resolutions on physical structure of the buildings. Local expectations, demands and socio-cultural attributes are not taken into account. Without incorporating with local administrations, even increasingly, governmental urban planning and recovery policies cause noticeable reactions from survivors. Such as; to leave or not to use the post-disaster houses (PDH), to make deformations on or additions to them or to reconstruct their new buildings.

This study is composed of a review on two different case studies based on surveys conducted with the survivors who live or lived in permanent PDH in Afyon/Dinar and temporary PDH in Yalova. The case studies were done with the method of face-to-face interviews and conducted among the selected samples. Within the scope of two case studies; we make table to analyse appreciations of survivors on urban imaginaries, design and recovery by inquiring correlations, using chi-square test ($p \leq 0.05$).

As a result, with the help of this study, we try to point out that in process of making regulation or political decisions on urban recovery we should not forget that cities are a product of dwellers’ own culture, history and their imagination of future trajectories. And so we have to develop the reconstruction and recovery planning according to dwellers’ demands, expectations, experiences within high rate of user participation locally, instead of direct governmental decision.

Keywords: preferences, expectations, images, urban recovery, reconstruction

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Introduction

Post-disaster reconstruction enforcements cause more serious problems than disasters can do, in spite of the fact that disasters affect not only physical environments, but also human life and their future. Especially, unsuccessful urban recovery policies affect the psychology of survivors, their social and cultural lives, image of the city in their memories, their daily life activities and habits. So in order to re-organize the social and economic life of survivors after a disaster, the post-disaster period recovery actions need to be examined in each case.

In Turkey, where mostly earthquake disasters are being occurred, there were lots of regulations about "Post-disaster reconstruction" issued, but the last and comprehensive one is "Regulations on Reconstruction of Buildings in Earthquake Zones" issued in 2007. However this regulation just only contains expectations and resolutions on physical structure of the buildings. Main topics are rules for earthquake resistant structural design calculations, how to identify earthquake loads, earthquake resistant design rules for reinforced concrete structure, steel structure, masonry structures, strengthening of existing buildings. According to this governmental reconstruction and recovery approach, local expectations, demands and socio-cultural attributes are not taken into account. Without incorporating with local administrations, even increasingly, governmental urban planning and recovery policies cause noticeable reactions from survivors. Such as; to leave or not to use the post-disaster houses, to make deformations on or additions to them or to reconstruct their new buildings.

Therefore, the necessity of interconnection between past, present and future plays an important role on post-disaster urban recovery and planning. The objective of this study is to examine a review on two different case studies based on surveys conducted with the survivors who live or lived in temporary or permanent post-disaster houses in Turkey. Thus with the help of these outcomes, we try to point out the importance of making regulation or political decisions according to dwellers' demands, expectations, experiences and their participations.

Overview on post-disaster settlements in Dinar and Yalova

Dinar is a sparsely populated rural agricultural settlement in the "Lake District" of southwestern Anatolia, Turkey. Mostly income sources are farming, breeding animal and family poultry or governmental works. It was struck by an earthquake, its magnitude, 6.1 Richter scale, on 1st October 1995. In villages one-storied permanent post-disaster housing settlements, with detached storehouse in small gardens, were constructed one year after. Plan of the houses consists of a living room, two bedrooms, kitchen, bathroom and a toilet.

Yalova is a high densely populated industrial city, located in northwestern of Turkey. It was also struck by an earthquake, its magnitude, 7.6 Richter scale, on 17th August 1999. Due to need for numerous permanent post-disaster house constructions, survivors had to live more than two years in their temporary post-disaster house. These one-storied prefabricated temporary houses were planned as one living space with a bath.



Fig. 1.1 Permanent post-disaster houses in Villages of Dinar

In Villages of Dinar the survivor, who live in their permanent post-disaster houses, are depending on farming. When we look at the plan organization of their old houses, besides the dwelling, those crowded families need additions for special purposes; guest room, bread house, stable, poultry, storage, garage, etc. Because of those requirements, survivors built new additional parts adjacent to post-disaster houses without controlled by local authority, which make building structures weaken against to earthquakes.

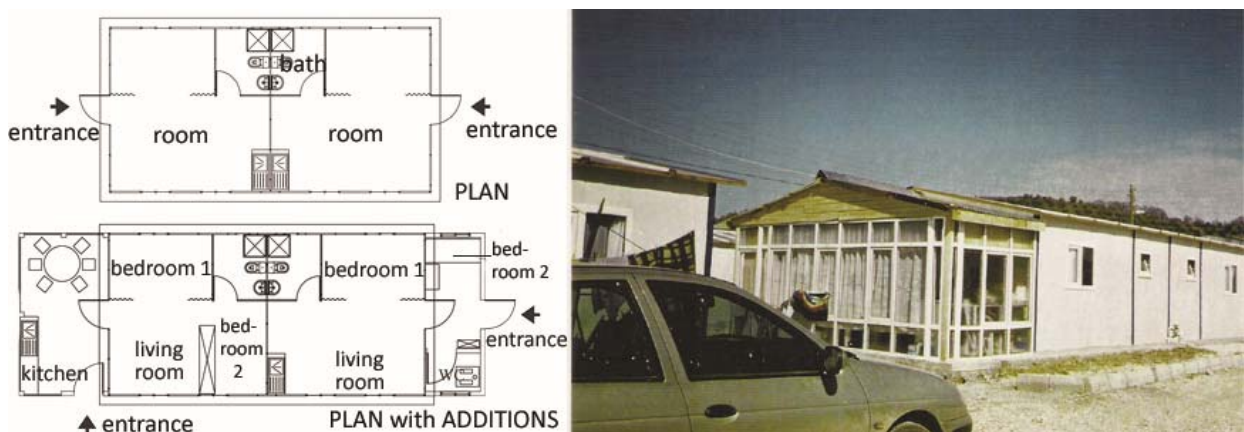


Fig. 1.2 Temporary post-disaster houses in Yalova

Due to delays on construction, survivors, lived in Yalova, were forced to modify their temporary post-disaster houses that can't offer a comfortable spaces in their daily activities. Depending on the requirements of urban social life style and nuclear family structure, variations in temporary



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spaces were provided by additions and intervention. But those additional kitchen and/or second room parts, that were mostly combined by the entrances disruptively, prevent to recurrence of temporary structure, and also cause losses in economically.

Review on Case Studies

This review is composed of two different case studies based on surveys conducted with the survivors who live or lived in permanent post-disaster houses in villages (Aktoprak and Gencali) of Afyon/Dinar and temporary post-disaster houses in Yalova. The case studies were done with the method of face-to-face interviews and conducted among the selected samples. The sample group consists of 35 people living in villages of Dinar and 25 people living in Yalova.

Within the scope of two case studies; we make a table to analyze appreciations of survivors on urban imaginaries, design and recovery by inquiring correlations between socio-demographic background (age, gender, education, income, job status, life standards, family structure and status, neighborhoods and living experience in other settlements), disaster experience, perceptual changes, individual values, living habits of survivors with their expectations on urban imaginaries, appreciations on temporary and permanent post-disaster houses. We try to find out the significant responses from correlations by using chi-square test ($p \leq 0.05$).

- The correlations from permanent post-disaster houses in Villages of Dinar;

Age x beauty and aesthetic on façades of permanent post-disaster houses: In village of Dinar, age 15-30 and 31-45 groups find façades of their permanent post-disaster houses simple and unpretentious with a straight front. They want to live in houses which have beautiful and aesthetic façades, seen in European villages. But age 46-60 and over 61 groups contrast with the others, they like whitewashed, clean, simple and smooth façade rather than their colorless, plastered old houses in irregular narrow streets.

Age x relationship between permanent post-disaster houses and street life: In village of Dinar, age 15-30 and 46-60 groups, who expect to come together easily for social activities, find the relationship between post-disaster houses and street life suitable. But age 31-45 groups, who are dealing with daily house works and child care, find their house-street relationship worst and want to control the relation level. Age over 61 groups is disturbed by the noise and action, and wants natural or artificial barriers to control the relation level.

Gender x use of garden/ plantation in permanent post-disaster: In village of Dinar, all genders stated that they mostly use garden for plantation, daily house works and winter preparations.

Gender x expectation on usability and strength of roof: Space requirements for agricultural life such as warehouse, storage, garage, bread house etc. are mostly solved inside of gardens. Because of that, survivors demand strengthened roof constructions rather than extra space in their house

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roofs. The male subjects, who usually involve in maintenance, repair and construction works in houses, do not find roof constructions and their water and heating insulation very well.

Living experience in other settlements x suitability for daily use: In villages of Dinar, Permanent post-disaster houses have insufficient spaces for crowded families. Their plans do not allow different uses in days and nights' requirements. If there are quests inside the house, privacy problems occur. The survivors, who have experience to live in other settlements, find permanent post-disaster houses more suitable for daily use than the survivors, who live only in Dinar.

- The correlations from temporary post-disaster houses in Yalova;

Income x use of garden in temporary post-disaster houses: Low-income groups use the given space around the houses to hang out their laundry or leave it void. But middle and upper-middle income groups lay out the space as gardens. And also use flower pots, fences, brick barriers, paths, etc. to define the boundaries between street and their house.

Life standards x expectation on usability and strength of roof: In opposition to rural survivors, city-dwellers made additions to temporary post-disaster houses for daily house activities. They demand to use attic as storage, instead of reserving a place to store. They don't have any expectation on strength of roof, but have heating and insulation problems of the walls.

Education x beauty and aesthetic on façades of temporary post-disaster houses: Graduated from high school and university groups demand colourful and aesthetical facades. But graduated from primary school and non-educated groups have no opinion on. However all groups want from facades to reflect their personal identities and to be easily recognized.

Settlements	Urban Imaginaries			Urban Design								Urban Recovery					
	Past Urban Image	Post-disaster Settlements Image	Contemporary Urban Image	Having Flexibility		Allow Additions		Identity		Urban Pattern		Density		Reconstruction policies		Economical policies	
				Necessary	Unnecessary	Necessary	Unnecessary	Important	Unimportant	Traditional	Contemporary	Sparsely Horizontal Planning	Densely Vertical Planning	Expecting Governmental Resolutions	Requiring Alternative Recovery	Demanding User-participation	Demanding outright gift
Dinar	Aktoprak																
Dinar	Gencali																
Yalova																	

Table 1.1 Appreciations on Temporary/Permanent Post-disaster Houses

Family status x use of garden/ plantation in temporary post-disaster houses: Singles (lost wife or husband) and families arrange their gardens, but young married couples, unmarried singles and old parents live with their children's families do not interest to arrange the gardens. By examining these responses, we can determine that; survivors, who have responsibilities for daily family house works, show more adaptations than others.

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Consequently, by examining the responses on correlation, we may say that urban recovery requires new political approaches, which is going to progress the post-disaster organizations from governmental to local.

Results

In the period when these case studies were done, the importance of user-participation, in recovery processes, was discussed in Turkey recently. And firstly, non-governmental organizations took an active role and respected by authorities, in the meetings for solving serious social and economic problems that were occurred after Marmara Earthquake in 1999.

As a result, we can say that currently in process of making regulation or political decisions (regulations on reconstruction, rules, governmental housing planning, house donations, etc.) are found unsatisfactory for urban recovery. We should not forget that cities are a product of dwellers' own culture, history and their imagination of future trajectories.

Therefore instead of expecting from government in their region, all local authorities, non-governmental organizations and resident communities have to organize a "Post-disaster Action and Management Plan" by contributing to each step of process: *a.* pre-design/ developing house alternatives, *b.* surveys, *c.* user-participations, *d.* self-construction/with technical assistance and *e.* post-occupancy evaluation/information feedback system.

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Author's Biography



Evren Burak Enginoz is an Assistant Professor in Department of Architecture- Istanbul Kultur University. He received his B.Arch. in 1996, his M.S. Arch. degree in 1998 and Ph.D. in 2005 from Istanbul Technical University. The Title of his PhD is "Analysis of Architectural Design Process of Post-Disaster Houses in the Context of Occupants' Needs". His teaching courses and research interests are "Architectural design studio, post-disaster housing, accessibility, barrier free spaces and environmental studies in architecture".