

## **STORIES OF RURAL PEOPLE LIVING IN THE SETTLEMENTS BUILT AFTER EARTHQUAKES: A CASE STUDY FROM THE PROVINCE OF VAN, TURKEY**

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### **—Abstract —**

After the earthquakes stricken the province of Van, the authorities acted quickly to provide permanent houses for the rural dwellers. Only a year after, the dwellers delivered their new dwellings that were built by the state or the contractors. Accordingly, this study focuses upon the dwellers and their perceptions for their newly built environment, in the contexts of migration, livelihood, approaches for reconstruction strategies and their post-occupancy evaluations. In parallel to the qualitative research approach for the study, in total 12 interviews were conducted in the villages of *Topaktaş*, *Ozkaynak*, *Kozluca*, *Gedelova* and *Yalnızağaç*. The interviewees' contributions to the study helped to uncover the different insights of the reconstruction process as well as the post-earthquake socio-economical conditions from their own perspectives and with their own words.

**Key Words:** *post-disaster housing, socio-economic outcomes, the Van province.*

**JEL Classification:** R59

## **1. INTRODUCTION**

### **1.1. Dwellers' participation in disaster studies**

The research interest of society and individual context in the field of disaster studies is quite a new approach. Today, disaster studies have started to reach to the point of saturation in terms of providing different approaches to emergency shelter and post-disaster reconstruction process with various examples of the post-disaster experiences of countries all around the world. While most of the studies have the standpoint of assessing the post-disaster shelter and housing implementations as a design-product or structure-product in policy framework (Cuny,1978), the number of the studies based on the social context of disasters increased as well in the last few decades. However, due to the complexity in the nature of 'post-disaster process', the studies are often concluded with statistical and deepen numerical results for the specific research in order to be able to transfer the results to a larger extend.

This study, in contrast, focuses upon the dwellers and their perceptions by their own statements. The target area of this study is the province of Van, and the housing implementations completed in the rural settlements affected from the earthquakes in late 2011.

### **1.2. Research methodology**

The study has a qualitative approach, which aims to present the rural dwellers' thoughts and opinions for their rebuilt environment and their socio-economical conditions. Therefore, this paper comprises 12 interviews with the rural dwellers living in the reconstructed villages and settlements after the earthquakes in Van. The study has two main bodies. The first body is about the socio-economic outcomes of the earthquakes, which is sub-categorised in migration and livelihood. The second body focuses upon the reconstruction process for the implementations, which includes the approaches to reconstruction strategies, and the post-occupancy evaluations of the dwellers. The interviews were conducted in the villages of *Topaktaş*, *Ozkaynak*, *Kozluca*, *Gedelova* and *Yalnızagaç*. The

interviewees' statements are given anonymously and in the context of the topic examined in this paper.

## **2. SOCIO-ECONOMIC OUTCOMES OF THE EARTHQUAKE IN VAN**

### **2.1. Migration**

When a natural disaster strikes human settlements, in the first instance, it causes devastations in the built environment, and then disruptions in the social and economical routines of the people affected. In the shortage of help and protection recovery, feeling safe and in secure, access to essential needs (e.g. alimention and housing), in addition to harsh climate conditions (heavy snow), disorganized help scheme and continuity of aftershocks (in case of earthquakes); the survivors often consider to migrate out of the area affected (IMO, 2007). This was the case after the earthquake in Van. Since the two tremors heavily affected both its rural and urban areas, most of the survivors thought that they were left with no choice but to migrate to elsewhere to carry their lives on. While there were numerous news in the media resources about the growing migration flow out of the area (Yüksekovahaber.com, 2011; Haber318.net, 2011; Denizlihaber, 2011; Diyadin.net, 2011), the official statistical data also reveals the sharply increasing number of migrants from the area (Table 1). As shown in the table, the regular volume of out-migration of the area was more than doubled after the earthquakes in late 2011. Notwithstanding, beside the case ongoing decreasingly, the volume of returning migrants to the area also doubled a year after the disaster, which can be linked to the completions of the post-earthquake housing reconstruction in most of the settlements affected.

Table 1: The volume of migration to-and-out Van between the years 2007 and 2012 (TUIK, 2013).

	<b>Volume of Migration* in VAN (TURKEY)</b>	
	<b>IN</b>	<b>OUT</b>
<b>2007-2008</b>	21.128	30.275
<b>2008-2009</b>	22.866	27.175
<b>2009-2010</b>	23.231	31.312
<b>2010-2011</b>	23.415	72.273
<b>2011-2012</b>	50.003	46.639

(\*) Indicates the census data based on address records.

The 3 interviewees out of 12 stated that they migrated to adjacent provinces as well, but currently live in the reconstructed houses by the state. One of them states: “...*We went to Batman, as seven families preferred so (who are all relatives and live in the same village), but it was very difficult for us. We had to rely on our resources; we did not receive any financial help from the state*”. The other families’ interviewee states: “...*We went to Batman after one month of the earthquake. We stayed in rent, and we have large households. I sold my golden bracelets to make money. We stayed in city centre over there, and the flat was too small*”. Another interviewee states: “...*It was a very difficult and distressed time. We went to Mersin, where my older brother lives. We stayed in a flat rented, which also he lives in. I worked as a mason in building constructions to provide livelihood*’. On the other hand, 6 interviewees out of 12 stated that they had never considered migration due to the allegiance to their lands and environment, and fear of low capability of adaptation in living elsewhere. One of the interviewee stated that they had been in Istanbul for 3-4 years, but found there quite chaotic and expensive to live for such a large number of households. Another one stated that although their container (provided by the state) was flooded by a heavy rain after the earthquake, they never considered leaving their village due to the thought of ‘I cannot live anywhere but here’. One of the interviewees, who also took part in the reconstruction of the houses, stated: “...*The people here are dependent on their lands and animals. One from here cannot live in Istanbul; one from Istanbul cannot survive in here! Otherwise, if they do not have any lands or animals, then they might think they can make a life anywhere by working in any kind of job*”. Finally, the rest 3 interviewees stated that they wished to migrate out of the area, but, not only their close relatives did not let them to do so, but also their poor economical conditions did not allow them.

## **2.2. Livelihood**

As seen from the examples, economical circumstances are the utmost in decision making for migration as well as the survivors’ state of mind in the area. The issue is more crucial for the rural settlements in eastern Turkey, where the livelihood is vitally based on animal husbandry. However, the high risk of losing the animal stock in the occurrence of a disaster, and though the increasing cost of feeding and caring, its irregular and low-level of income cause the families to adapt their

livelihoods. While the region (Eastern Anatolia) keeps its significant contribution to the gross agricultural value of the country, Van has a descending trend in the share of animal stock for the last few decades (SPO, 2000). The agricultural characteristic of the area is categorised as average, while the rural attractiveness is categorised as low (Gulumser et al., 2007). The state took the opportunity to invigorate the animal husbandry in the area after the earthquakes in 2011, and developed a livelihood recovery scheme that replaced losses in the survivors' animal stocks and provided more than 3000 temporary animal shelters during winter (AFAD & Van Valiliği, 2012). However, the interviewees in this study were neither interested in nor benefitted from the scheme. In contrast, only 3 out of 12 interviewees stated that they continued animal husbandry in small scale to provide their essential needs (e.g. milk, butter and cheese), not for profiting. Therefore, even they had losses in their stock; they did not ask the state to replace them. There was only one interviewee that had an animal stock of 150, but complaining the disorganised scheme of the state and the recent closure of the local meat corporation, which cares the breeders. The rest 8 out of 12 interviewees had already given up animal husbandry before the earthquake or continued in individual scale (2-3 animals) beside their regular jobs. One of the interviewee stated: *"...My father works in car parking with a daily salary of 20-30TL. We have animals but not for selling. We take their products for our needs"*. Another interviewee similarly stated: *"...My husband works in a car park for 30TL per day. He has been there for 4-5 years. We do not have animals"*. Another interviewee stated: *"... I am working as a cleaning staff in a school. It has been 8-9 years. I am not very happy with that, but have to sustain livelihood. We have also a couple of animals"*. The other interviewees include construction workers (2), driver (1) and security staffs (2), who do not have animal stock. These examples highly reflect the tendency for livelihood resources in the area, which is under influence of various indicators apart from the earthquakes stricken, primarily the household size and structure, and the capacity of the skills for employment.

### 3. COMPLETION OF POST-EARTHQUAKE PERMANENT HOUSES

#### 3.1. Approaches to the reconstruction process in Van

Although the post-disaster reconstruction in the aftermath of an disastrous earthquake gives the authorities in charge the opportunity to rebuild better and more resistant the physical environment, implementing and achieving the completion of such large-volume projects is not a simple task (Ophiyandri et al., 2012), like the case in Van. There are several fundamental approaches to post-disaster reconstruction, including owner-driven, community-driven and agency-driven (The World Bank, 2010). Turkey has an extensive record of conducting owner-driven approach for rebuilding the damaged settlements till 1970s (Geray, *n.d*). However, after the 1980s, the authorities adopted more of agency-driven approach, which is the preference continued up to date and allows the state to conduct the implementation process via contractors hired or the national housing agency. Besides, another strategy widely adopted by the authorities in Turkey is the relocation of the communities and settlements affected to safer areas, which also has the roots back in 1970s (Davis, 1978). Both of these strategies applied in the reconstruction process of the permanent houses in most of the rural settlements damaged in Van. In the beginning of the process, the national housing agency (TOKI) came forward to conduct the entire reconstruction in the villages. However, due to the complexity of the work to-be conducted in the villages and the request from the dwellers to rebuild their houses under their own control, TOKI only completed the reconstruction of three relocated housing projects (the villages of Ozkaynak, Topaktaş and Dağönü). For the other villages damaged, the contractor-driven approach applied, which is the system that the contractor builds the house on behalf of the beneficiary, and as the construction progress, the contractor receives an amount of the housing loan given by the state for dwellers. However, during the reconstruction process, there were problems occurred between the dwellers and the contractors, and this issue even reached at a point that some of the dwellers became regret for hiring a contractor instead of rebuilding on their own. For the satisfaction of contractor-driven approach, the 5 interviewees out of 12 stated that they were satisfied from the contractor involved. One of the interviewee stated: “...*If we rebuilt the house, it would not be that good. We could not value the loan that good*”. Another interviewee stated: “...*In*

*the beginning I was telling myself that I would rebuilt better, but now I think it is much better with the contractor*". Similarly, another interviewee also stated: "... *We are satisfied with the work. If we built, we would exceed the amount*". On the other hand, the majority, 7 out of 12, of the interviewees often stated that they would have rebuilt much better than the one contractor built. One of them stated: "...*We could have rebuilt better, in better quality, and in larger size*". Another interviewee stated: "...*The contractors could not profit from the houses, so they left the houses incomplete. We had to finish the houses on our selves*". One interviewee highlighted the issue of raising awareness and stated: "...*If we were trained, we could rebuild as well, and as we wished*". Correspondingly, another interviewee stated: "...*We are not satisfied. We wished the state rebuilt directly, or control more strictly the contractors*". The existence of such diverse opinions points the unclear and, maybe, loose structure of the contractor-driven approach applied in the rural settlements of Van.

Apart from the reconstruction approach, the selection of construction materials was also the case among the dwellers. For example, in the implementations completed by TOKI (Figure 1), the main construction material was light-steel, and the system was light-steel frame. Such a sample of construction was the first application in the area, and thus, most of the rural dwellers did not know the material. Therefore, while one interviewee stated that they would prefer reinforced concrete structure due its 'resistance' to earthquakes, the other interviewee stated that they were preferred the material, because their previous house was built with reinforced concrete and heavily damaged in the earthquake.

Figure 1 The implementation of TOKI in Topaktaş Village; an example of the houses built by the contractors.



Sources: <http://gundem.milliyet.com.tr/yeni-van-boyle-kuruluyor/gundem/gundemdetay/14.10.2012/1611393/default.htm> [Accessed 09.03.2013];  
[www.ercis.gov.tr/print.aspx?id=509](http://www.ercis.gov.tr/print.aspx?id=509) [Accessed 10.03.2013].

### **3.2. Post-occupancy evaluation of dwellers**

While, in general, the post-disaster reconstruction simply aims to increase the resilience of the built environment, in the end of the implementations, the dwellers have expectations for their new houses. They wait for delivering a house to make a home after experiencing a severe earthquake and becoming homeless. In this context, when the interviewees were asked about what they were unsatisfied with their house, their responds created an array from structural quality, finishing material quality, settlement layouts and housing layouts. For the housing layout, one of the interviewee stated: “...*It would be better if it was larger. It is too small*”. Another interviewee stated: “...*I would add a separation wall in here (for separating the open plan of living room with a corridor)*”. Following this, another interviewee stated: “... *The roof is too low. Only 1.40 m, in winter, the snow remains on it for long time*”. Another interviewee complained the lack of communication with them and stated: “...*There were (housing) plans that we wanted at the beginning. It had a basement with 2.10 m and was very beautiful, but they did not ask and do it*”. However, there were dwellers in some villages that paid an extra amount to the contractor for enlarging the plan or adding an extra room to the plan. In such cases, they stated that while the original plans offered by the state were 100 m<sup>2</sup> in average, they could able to enlarge up to 120-130 m<sup>2</sup> with a deal with the contractor. For the settlement layouts, one interviewee living in the TOKI implementation stated: “...*On this beautiful land, more beautiful houses could have been built... This plan is so dense. Our doors look each other's*”. Another interviewee also stated: “...*The land was misused. Here is empty, but there, these houses are dense*”. The other interviewees, whose houses were rebuilt near to their damaged houses, did not complain their locations. However, they particularly mentioned the poor quality of structural and finishing materials, due to the contractor based system. As the mentioned earlier, some of the contractors left the projects incomplete, so the dwellers carried on the construction. Such dwellers did not complain the material qualities, since they were able to choose the materials as they liked and afford, but the irresponsibility



of the contractor. For example, one interviewee stated: “...*Wooden floor covering in rooms, tiles for bathroom and the workbench and cupboards in kitchen were their duties. We completed them*”. On the other hand, there were interviewees mentioning the profit that the contractor possibly made by choosing the lowest quality of the laminated wood floor covering, or the profiles of doors and windows. One of them stated: “...*The main door is just simple tin. I replaced it myself... I also repainted the exterior side of the walls*”. Another interviewee stated: “...*I am happy with my house, but the only thing to say is the doors. I bought the main door to replace. All the other doors inside are broken*”. Besides, one of the interviewee stated: “...*The piles for kitchen drain and sink drain are same. It often blocks. It is not suitable*”. The interviewees’ responses help to uncover that building the houses as earthquake-resistant do not have a meaning itself, but should be enriched with the proper completion of the houses in order to increase the satisfaction level of the dwellers with their houses.

#### **4. CONCLUSION**

After the earthquakes stricken the province of Van, the authorities acted quickly, nearly a month later, to provide permanent houses for the dwellers. Notwithstanding, this study reveals that some of the essential decisions were taken quickly as well, not in consultation with the dwellers; so that they often found at least one part to criticize in the implementations though they, generally, stated that they were thankful for the state. The interviewees’ contributions to the study also uncovered that there were, maybe, misunderstandings on the side of the dwellers, where the contractors involved in, or maybe, a misdirected contractor-driven approach to conduct a successful, fully completed, implementations. This was not a commonly seen issue for the three implementations of TOKI. Nonetheless, the completion of the implementations in most of the villages resulted in the returning of the dwellers migrated out of Van, back to their villages, according to not only the statistical data but also the interviewees’ statements. Last but not least, livelihood trend in the area requires more attention to invigorate, which is affected more from various indicators other than, naturally affected but not entirely, the earthquakes.

## BIBLIOGRAPHY

AFAD & Van Valiliđi (2012), “*Depremden sonra 120 gn...Van Depremi*”, Van Valiliđi Afet Koordinasyon Merkezi.

Cuny, Frederick C. (1978), “Disaster and the Small Dwelling: The state of The Art”, Pregamon Press Ltd. Disasters, Vol. 2, No. 2/3, pp. 118-124.

Davis, Ian (1978), “Disaster and Settlements-Towards an Understanding the Key Issues”, Pregamon Press Ltd. Disasters, Vol. 2, No. 2/3, pp. 105-117.

Denizlihaber.com, *Van’dan Denizli’ye 30 aile gç etti*, [www.denizlihaber.com/yasam/yasam-genel/van-dan-denizliye-30-aile-goc-etti/](http://www.denizlihaber.com/yasam/yasam-genel/van-dan-denizliye-30-aile-goc-etti/), [Accessed 27.07.2013].

Diyadinnet.com, *50 hanesi gç eden ky halkı duygulu anlar yaşıyor*, [www.diyadinnet.com/HABER-10914-50-hanesi-gç-eden-ky-halkı-duygulu-anlar-yaşıyor](http://www.diyadinnet.com/HABER-10914-50-hanesi-goc-eden-koy-halki-duygulu-anlar-yaşıyor), [Accessed 27.07.2013].

Geray, Cevat (*n.d*), “Trkiye’de Evini Yapana Yardım Yntemi Uygulaması”, Amme Idaresi Dergisi, Vol. 5, No.2, pp. *Not available*.

Gulumser, Aliye Ahu, Baycan Levent, Tuzin and Nijkamp, Peter (2007), “Mapping Rurality: Analysis of Rural Structure in Turkey”, *Joint Congress of the European Regional Science Association and ASRDLF (Association de Science Rgionale de Langue Franaise)*, August 29th-September 2nd, Paris, France.

Haber318.net, *Van’dan Hasandede’ye gç*, [www.haber318.net/haberler/5970/vandan-hasandedeye-goc.aspx](http://www.haber318.net/haberler/5970/vandan-hasandedeye-goc.aspx), [Accessed 26.07.2013].

Ophiyandri, Taufika, Amaratunga, Dilanthi and Pathirage, Chaminda (2012), “Critical Success Factors for Community-Based Post-Disaster Housing Reconstruction Projects (CPHRP) in Pre-Construction Stages in Indonesia”, *Australasian Journal of Construction Economics and Building, Conference Series*, Vol. 1, No. 2, pp. 80-92.

SPO State Planning Organisation (2000), Eastern Anatolia Project Master Plan, Executive Summary, Ankara, Turkey: TR Prime Ministry.

The World Bank (2010), Safer Homes Stronger Communities: A Handbook for Reconstructing After Natural Disasters, Washington, DC: The International Bank for Reconstruction and Development.

TUIK Turkish Statistical Institute,  
[http://www.tuik.gov.tr/VeriBilgi.do?alt\\_id=1067](http://www.tuik.gov.tr/VeriBilgi.do?alt_id=1067), [Accessed 09.07.2013].

Yüksekovahaber.com, *Vanlılar göç yolunda*,  
[www.yuksekovahaber.com/haber/vanlilar-goc-yollarinda-61456.htm](http://www.yuksekovahaber.com/haber/vanlilar-goc-yollarinda-61456.htm), [Accessed 26.07.2013].