Lessons Learnt From Van and Erciş Earthquakes 2011, Turkey: An Evaluation of Disaster Management

Ass. Prof. Dr. Menaf Turan
Department of Public Administration
Faculty of Economic and Administrative Sciences
Yuzuncu Yil University
Van / Turkey

Abstract

In Turkey, where high amount of residential areas are at risk of earthquake, disaster risks are needed to be considered while preparing the development of plans. Unfortunately, the scenes after every natural disaster show that this fact had not been included in the planning process. A significant part of the problems encountered in the interventions during and immediately after the earthquake arises from this negligence and disaster management process are affected negatively. After two earthquakes with both lives and economical losses occurred in the region of Ercis and Van in October 23 and November 9, 2011, one of the questions which was sought to find an answer was that "in what extent does the layout of urban reconstruction and planning affect the disaster management?" Therefore, the susceptibility of the plans to the disaster are needed to be considered in the preparation of the reconstruction plans. This subject is classified as disaster sensitive planning or conservation planning in planning literature. For the disaster management process to be effective with all phases, planning at each stage and planning is needed to be associated with the disaster management. In this article, the relationship between disaster management and urban planning are questioned in the case of Ercis and Van earthquakes.

Key Words: Disaster management, urban planning, Van and Erciş earthquakes**,** post disaster temporary housing, housing policy

Introduction

The city of Van which is in the lower ranks in socio-economic development was about to get out of the clutches of underdevelopment that Van had been carrying for many years by the investments made and put in the project in recent years, but it was shaken by October 23 and November 9, 2011 earthquakes. Definitely earthquake reality showed the presence of a serious risk in terms of the investment that will be done. At the same time, it has also become a precursor of a number of opportunities for restructuring in crisis situations. One of the most important works need to be done is to consider zoning and planning which are one of the dimensions of the restructuring process in a way to shape the future of Van. The reconstruction process involves being permanent as well as being painful. In this study, zoning and planning order one of the dimensions of reconstruction process will be evaluated together with the disaster management.

Van and Ercis which have suffered a big destruction as well as life losses by shaking with two major earthquakes are needed to be evaluated as the display of zoning and planning fundamental problem for the places with and without earthquake experience, in other words irregular urbanization. The reasons of turning an earthquake which is a natural event but "lost its naturalness" (Keleş, 2012:606) to a disaster are needed to be investigated from irregular zoning and planning configurations. This is entirely related to the measures need to be taken before the earthquake. It would be wrong to evaluate what have been done and what couldn't have been done during and after an earthquake without doing the necessary things that is needed to be finished before the earthquake. In the literature, these subjects are explained with disaster management concept requiring interdisciplinary collaboration. In this context, disaster management is needed to be evaluated together with the steps both before and after the disaster.

The layout of zoning and planning is needed to be seen as a part of the political institution not as a technical occupation. Another dimension of zoning and planning is economical. Zoning and planning layout cannot be explained putting economical disciplines aside. Another aspect of the subject is the relationship of zoning and planning arrangements with the social structure. Sociology discipline comes out to our attention in this issue. In the zoning and planning scheme established without analyzing the social structure sufficiently, location-society relations will be ignored. With zoning and planning management which manages all of these processes and mostly based on political institutions, there are economical, political, social and managerial aspects of zoning and planning scheme and in this context, it won't be wrong to say that there is a close relation with social sciences. On the other hand, zoning and planning layout is directly related with branches of science named as natural sciences. All branches of engineering and architecture and city planning is related with the layout of zoning and planning. Therefore, the close relation between the layout of zoning and planning with transformation of natural event to disasters shows that this area is an interdisciplinary endeavor. All of these include both pre-disaster and post-disaster processes.

I. Disaster Management and Unchang(ed)able Zoning and Planning Layout

Why are there so many life losses in our country after many earthquakes? Why is this size destruction? And while it is said that nothing will be the same as it used to be, why is everything same as before? These questions can be answered by examining zoning and planning layout in our country. Then, the relationship between zoning and planning scheme with disaster management will try to be established.

The concept of planning is in the scope of many disciplines. In general, planning is defined as "in order to achieve the desired goals, preparation process of action programs" (Ersoy, 2007:9-34). Even thought urban planning is defined with different contexts, in accordance with this general definition, action programs for the future of the city can be conceptualized as a preparation process. However, it is needed to be mentioned that these actions series are multi-faceted, complex and an interdisciplinary action and changed in accordance with the functions installed to the cities by economic policies and even unplanned is become to be defended during the reached process. According to Keleş (2001), planning as a public activity is in duty area of legislative, the executive and the judicial powers. The general legal framework of planning is defined by legislation and in the real application, execution is in charge showing the relationship with the politics. On the other hand, all kinds of action and process of executive department is under judicial supervision showing that one other actor is judicial. This relationship is presented as evidence that urbanization, zoning and planning issues are nested in terms of legislative, executive and judicial powers. Modern urban planning has a history of almost 150 years in both our country and the world. Modern planning approach developed to find solutions for the problems created by industrialization showed that interventions to the cities is not only a physical one but it is also an intervention to the relationship between the city and the social structure. Therefore, the re-arrangement of the social structure is seen during spatial planning. For example, the thing Haussman was considering while he was reconstructing Paris is based on the idea of rebuilding the social structure (Harvey, 2008:23-40). This situation reveals the relationship between urbanization, planning and social structure.

When the definition of the concept of planning in accordance with the above determinations is made in a broader way as future-oriented design, achieving specific goals and objectives and a systematic action sequence not in the meaning of urban planning, it can be traced to a very long history, even back to the agricultural revolution. However, even though there are large number of plans which has different historical development, techniques and areas of interest, the history of urban planning as a concept covering also the social relations in the area not as a public action or not only a aesthetic architectural arrangements of the area goes back to the industrial revolution (Ersoy, 2007). Although zoning and planning are used together, Melih Ersoy noted that they are not integral integrators of each other and sometimes they have completely contradicted content (Ersoy, 2000:36-43). Keeping Ersoy's warning in mind, we can define planning in the context of research as zoning applications in term of urbanization and an action rule in legal perspective (Mengi and Keleş, 2003:18). Another concept that needs to be addressed in this study is the concept of disaster management. Oktay Ergünay (1999: 7-14) is defined the disaster management as "a broad concept that requires all the institutions and organizations of the society and the sources to be managed for the common goals like preventing the incident that might happen as a result of a disaster or in order to reduce the possible losses, planning, directing, supporting, coordinating, creating necessary legislative and institutional structures as well as effective and efficient implementation of the works needs to be done in loss reduction, preparation, response and recovery steps".

In short, disaster management is an integrated preparation and implementation process that requires knowing the danger and the risk which can lead to a disaster; taking rational and scientific measures to prevent the incidents before they happened or keeping the losses in the lowest level (Şengün, 2011).

Disaster is only an element of zoning and planning layout. One of the key combining disaster management with zoning and planning layout is planning approach described as disaster sensitive planning or conservation planning. Disaster sensitive planning of all planning types and sizes is not only an important tool to reduce the disaster loss, it is defined as considering the danger and the risks of natural disasters (geological) and a planning process aiming to prevent disasters and reducing the losses, and it is needed to be noted that the integration of geological-geotechnical data into the planning in order to achieve disaster sensitive planning approach (JMO, 2012). In this respect, this type of planning which is not included in our legislation is not seen as a zoning or land planning (Balamir, 2012a).

When Van and Ercis earthquakes are evaluated in terms of the relation of zoning and planning, both pre-earthquake and post-earthquake phenomenon is encountered. While zoning and planning layout effective on the transformation of an earthquake to a disaster corresponds to the pre-disaster process, resettlement corresponds to the post-disaster process. On the other hand, when we divided resettlement into two stages as temporary and permanent housing, the need that both stages are needed to be done within a specific plan arises. For this reason, it will come out that disaster management has a direct relationship with planning layout both before and after the disaster. By considering the examples of Van and Ercis earthquakes, it is understood that pre-disaster process wasn't taken into account in terms of zoning and planning layout.

II. Disaster Management Process and Disaster Services

Scientifically, 95% of Turkey is determined to be under earthquake risk. Some places are first degree and some is at second. However, Van earthquake showed us that Van is in 1st degree earthquake zone not in 2nd. It is needed to be determined that which settlement was under disaster risk, what degree earthquake zone it is in because these data have to be considered during the zone planning. Determination of the risk element is part of disaster management. Disaster management, a dynamic phenomenon, is composed with two-step process in general. This process is discussed roughly in two titles as pre-disaster and post-disaster. Pre-disaster process has two important steps. These are preparedness and risk reduction. The other process consists of three stages; search-rescue-first aid, rehabilitation and reconstruction phases. The first one includes pre-disaster measures and policies and it is named as risk management. Therefore, the thing that needs to be done in pre-disaster process is taking necessary measurements to overcome the disaster with minimum losses. The measures must be carried out according to a plan. As it is just mentioned i.e. starting with the determination of the areas under disaster risk should be regarded as the beginning of disaster management. All risk factors are mapped in this stage.

1. Risk Reduction Stage

Works like determination of danger and risk of the disaster, taking the necessary measures not to bear huge losses or to prevent, if possible, raising awareness, informing the society about the danger and the risk of disaster, improving the capacity of accomplishing the task, improving the institutional structure and legislation, determining and applying the research-development policies and strategies are needed to be done in this stage. Even though the effect of the earthquake on accumulation of capital and national income was estimated at 9-13 billion USD in the studies conducted after the Marmara Earthquake, it is reported that necessary connections could not be established between development plans and disaster management, works of disaster loss reduction were not received enough attention (Şengün, 2011). As Balamir mentioned, in the "1st Summit of City Management" and "World Cities 2nd Scientific Development Forum" (WCSDA), the ideas that the reason of the disaster is not nature but unplanned and uncontrolled developments and risk reduction is not a cost but it is an investment that won't cause regret came to the front (Balamir, 2012b).

It should be emphasized that this kind of determination was made and they have been used in academic studies. Two years ago, possible earthquake risk was mentioned in Van City Symposium organized by TMMOB. Again in 2005, in a symposium held in Kocaeli, the seismicity of the city of Van was presented in as study (Özvan et al., 2005). In this recent studies, it was reminded that the city of Van might have earthquakes with 4 or higher and in terms of soil properties and structure qualities, these earthquakes would cause life and property losses.

In this sense, the city of Van was understood not to be ready for an earthquake in terms of both first step of disaster management and zoning and planning layout. Despite all this, how much of the prepared plans were followed is in question. Through the example of Van and Ercis earthquake, it is understood that pre-disaster process wasn't taken into account in terms of zoning and planning layout.

The report which prepared by the Chamber of Architects (2012), it is emphasized that the construction plan prepared for Van in 1994 wasn't foresee the excessive population growth after 2000, it is constantly changed within the framework of local construction plans and plan changes, this situation resulted in the emergence of formation unsuitable to ground conditions of Van. Having only 15% of licensed structures among approximately 60,000 structures in Van, having only 150 structures with architect signature among 500 licensed ones in Ercis that hosts a total population of 160.000 show the relationship between the earthquakes with planning and construction scheme. The effect of the factors related to building quality on the conversion of the earthquake to disaster is specified. For example, significant damage occurred in the ground and first floors, buildings which should be 4-5 floor built as 7-8 floors, buildings were mostly illegal, there was a lack of control on the legal ones, the construction plans which don't take into consideration disaster data used and applications were maintained with refurbished plans, low concrete quality and similar observations are mentioned in the report.

As a result, planning which is not fulfilling architecture-engineering science and technology, construction, production and inspection system and social poverty and deprivation particularly in rural areas were effective on the transformation of Van and Ercis earthquakes into a disaster.

This figure shows that the risk reduction stage is not taken into account sufficiently. In the earthquake, 644 life loss, big number of injured and together with damaged structures related data shows the severity of the situation.

Table 1: Earthquakes Occurred in the City of Van

Year	Region	Severity	Life Loss	Injured	Damaged Buildings
1941	Van-Erciş	5.9	194		600
1945	Van	5.8	12		2000
1945	Van				1000
1972	Van	5.2	1		400
1974	Başkale				20
1976	Çaldıran-Muradiye	7.2	3840	497	9552
2011	Erciş ve Van	7.2-5.6	644		33.016

Source: (Uzunparmak, 2010).

In order to avoid this sad scene once more, risk characteristics of the settlements needs to be determined. According to Murat Balamir in this sense, works like the distribution of the population living in the town in various times during a day, collection of data related to infrastructure and superstructure, the existing building stock, determining the risk of the elements which might have damages primarily in the disaster such as power plants, reviewing the current town plans by considering all the risks, investigating the residence soil condition, width-narrowing conditions of the roads, building density, determining the location for the production and storage of dangerous substances (distribution routes) , determining the amount and the distribution of green and open spaces in the town need to be done (Balamir, 2012a).

Table.2: Damage Status according to the results of the Appeals to Final Damage Determinations

		Van	Van/ Villages	Erciş	Erciş/ Villages	Edremit	
Damage Detection							**Total**
	House	91749	13564	25008	12790	4511	147622
	Workplace	14167	179	4097	137	155	18735
	Barn	2831	7092	3385	6228	743	20279
Collapsed/Heavily Damaged	House	17828	7266	6303	4005	801	36203
	Workplace	1434	82	1347	10	11	2884
	Barn	1593	4350	1826	1689	336	9794
Medium Damaged	House	15333	326	2050	257	215	18181
	Workplace	3153	8	739	1	6	3907
	Barn	75	143	64	113	3	398
Less Damaged	House	34873	4351	10838	6614	1777	58453
	Workplace	6353	51	1476	66	46	7992
	Barn	811	1876	974	2714	267	6642
No Damage	House	23715	1621	5817	1914	1718	34785
	Workplace	3227	38	535	60	92	3952
	Barn	352	723	521	1712	137	3445

Source: (Van's Governor, 06.03.2012).

2. Preparedness Stage

Since complete elimination of the possible risk and danger arising after the disaster is not possible in spite of the measures taken and the works done in the risk reduction stage, works like preparation and developing the emergency plans, improving the information level of the personnel who is given duty and responsibility in these plans by education and application, organization, development and dissemination of search and rescue works, establishing and improving of alarm and early warning systems, supplying first aid materials in regional and local scale when needed are done in this stage (Ergünay, 2008).

It is needed to be mentioned that there are important issues in Van and Ercis earthquakes at this stage. Although, there is a Study Guide about the Works in the Disaster (2011) prepared by Provincial Disaster and Emergency Directorate Management, it should be emphasized that the data of this works are not benefited enough in both institutional and community level. However, it should be noted that the guidelines was applied after the earthquake. Another problem arising in the application of the guidelines is the reality of the personnel who would have part in this work has been faced with the disaster also. On the other hand, it should be added that the reality of organizing search and rescue teams from other cities because of the magnitude and the impact of the earthquake shows that the planning for this issue was made only considering local personnel and instruments.

3. Event Response Stage- First Aid and Rescue Services

Intervention, starting immediately after the disaster, is a term describing the activities carried out within 1-2 months depending on the size of the disaster. The main objective of this work is to save as many people's life as possible in the shortest time, to ensure the treatment of the wounded, to meet the vital requirements like shelter, food, relief, protection, heating, security, psychological support as soon as possible (Şengün, 2011). If we need to turn back to Van and Ercis earthquakes again, since the necessary measurements wasn't taken before the disaster in the second stage i.e. crisis management stage, a heavy load came out causing from this stage.

As it is known, October 23 earthquake caused life loses and destruction especially in the town of Ercis, November 9 earthquake caused same results in the city of Van but the life loss was less. This should be considered as the first lesson taken after the earthquake, because important part of our citizens either left the city or they didn't came to their houses. First step in terms of disaster management includes search, rescue and first-aid measures. It should be emphasized that this process is managed relatively well comparing with the previous earthquakes. However, there are factors preventing the determination of the collapsed structures and reaching these areas. Co-ordination problems of search, rescue and first-aid teams to reach the earthquake area and directing them to the dents need to be added. On the other hand, medical teams that are quickly mobilized and managed in the center continued to provide health care services in very organized manner in spite of mostly damaged health institutions. One other problem faced in this stage in terms of Van and Ercis Earthquakes is temporary housing problem. The difficulties to evaluate the claims about meeting search, rescue and first-aid works with tent demands simultaneously with the delays on transferring the tents into the earthquake zone, the difference between the number of tent in stock and the number of requested tent and the problems that need to be solved during the damage assessment and at the point of determination of the people in need drew attention.

One other problem area again in this stage is meeting food, cleaning supplies, clothing and other needs. The relief supplies which was sent by the citizens from all over the country, non-governmental organizations and public institutions were mentioned in press. Primarily it should be noted that a very high sensitivity was exhibited in this issue. However, panic and chaos environment caused by earthquake, despair and uncertainty feelings made everyone in need of help. Previous experiences have shown that such reactions can occur. However, coordinating all the aids came from everywhere, repacking after sorting them and being sent randomly caused problems in the works done in the earthquake zone. Therefore, this issue was also criticized. Distributing all aid materials at once and randomly will cause to the depletion of the stocks. For this reason, we know that after the first few days, works for delivering the helps to the people determined to be in need of help were done. We need to state that help dependency issue is not unique for this earthquake but social groups who become help depended because of the applied system increase the level of their expectation and expressed their demands loudly after the disaster. One other measurement after the disaster is to ensure the security and public order.

The measures especially, the safety of debris, the measures taken about not entering the buildings having the risk of collapsing, delivering the tents and other relief supplies to those in need can be evaluated in this regard. Pre-damage detection is caused by the need of ensuring safety. Final damage determination is another piece of this process. Having aftershocks caused difficulties on this works. But in this regard, in Van and Ercis as a result of investigating 103.478 buildings, 111.709 housings, 14.904 workplace and 17.261 yarn it is found that 33.016 buildings, 28.532 housings, 2.440 workplace and 8.254 yarn were collapsed or severely damaged. According to the result of this damage assessment, which would have the right was determined. With all of these steps, the shock earthquake victims faced tried to be overcome in the frame of psycho-social support services. Finally, various measures taken in the field of education is considered at this stage. In this regard, giving a period of temporary interruption of education, migration of some of the students to other cities, with teachers' accommodation problems, it needs to be added that around 60 teachers lost their lives in Ercis earthquake.

4. Recovery Stage

Starting immediately after the formation of a disaster, all activities which may last for a few years depending on the size of the disaster form the recovery stage. The main objective of the work done at this stage is to ensure the continuity by improving in time of vital works in work and economic areas like communications, transportation, water, electricity, sanitation, education, social activities, temporary and permanent residence and as a result creating safer and improved living environment for the people affected by the disaster. 270 thousand housings have been rebuilt because of the disasters occurred so far (Şengün, 2011).

In terms of Van and Ercis earthquakes, this stage covers temporary housing and the problems of housing, education health, social welfare, communications, transportation and infrastructure carried out in these fields. Container residential areas; 4 in Ercis and 31 in Van is the most important aspects of this process. In accordance of the instruction to manage these places where almost 180 thousand of earthquake victims would live until the permanent housing is complete is done, social and public services related to these areas are done. It can be said that, we are lucky about determination and availability of the fields where this many citizens would placed in terms of urban planning scheme.

Because, areas still owned by the state and the treasury, might be a base for planning. One of the most important aspects of planning is to have stock of land which would provide temporary housing in post-disaster period. The existence of this stock has relaxed the public administrations.

5. Reconstruction

This stage need to be completed as soon as possible by the elimination of the effects of the disaster and creation of new residential areas. Works done in this context are named as reconstruction process in disaster management (Yılmaz 2008: 19-20).

In terms of Van and Ercis towns, rehabilitation and reconstruction processes need to be addressed together. On the one hand, execution of the public and social services related to container residential areas, on the other hand, execution of permanent housing and urban need in the frame of a new plan is in question. It is known that detection of the location for permanent houses have been completed and the houses were distributed but new planning and urban regeneration is still continues. This plan needs to be prepared in accordance with planning principles named as disaster sensitive or conservation planning in literature. For this reason, how the idea of this planning will be explained in the following title.

III. Disaster Sensitive Planning for Disaster Management

It is worth considering the steps related to disaster management process as successive and nested dynamic rings. Preparatory work can be done during the damage reduction efforts; improvement during intervention, harm reduction during the improvement works can be done. It is impossible for public management to perform all of these works (Şengün, 2011). As noted above, there is a direct relationship between disaster management and urban planning. Thus, urban planning is a phenomenon which appears at every stage of disaster management. It is required in pre-disaster, during the disaster and in post-disaster. For example, to reach the structures which were destroyed or heavily damaged, pre-planning of these areas, constructing infrastructure system accordingly is in question. The possibility of planning all of these processes together will be possible by implementing the disaster sensitive planning into life. Reconstruction work after the disaster means to be ready to the possible disasters and reducing the risks. For this reason, the reconstruction of Van and Ercis should be in proper with the capacity to be prepared for future earthquakes. Disaster sensitive planning in this context is not an approach reducing urban planning to only a static environmental design and land use decisions, but it should be designed as a dynamic process of problem-solving for creating a livable, safe, healthy urban environment and it is an internalization of planning processes of the methods of reducing disaster danger and risks (Yılmaz, 2008). Therefore, disaster sensitive planning should cover the determination of important public buildings, land use and residential buildings, the transportation system, drinking water, sewage and other infrastructure system analysis, industrial facilities that could cause significant environmental pollutions and the determination of necessary rescue and aid infrastructure and geological studies based on planning (Yılmaz, 2008).

As Conclusion: Lessons Learnt

Two major earthquakes occurred on October 23 and 2011 have caused very serious losses of lives and properties and they have caused a trauma that will last for many years on the people who suffered the earthquakes. Hence, the most important feature of Van and Ercis earthquakes which was very insidious and devastating is the material destruction besides the loss of lives. Earthquake phenomenon is a subject to be examined with not as a discipline only but also as an interdisciplinary collaboration. And an earthquake has economical, political, social, administrative, cultural and psychological aspects. Because of this unique nature, it is a managerial phenomenon that not only the central and local governments but also the people need to participate in the decision-making processes. However, as it can be observed in Van and Ercis Earthquakes, participation which is a requirement of democracy should not only include the demands after the earthquakes, but rather it should include the needs to be done before them. Issues such as failure to take measures needed to be taken in advance for not to get caught by an earthquake unprepared, not to prepare town plans sensitive to a disaster or failure to follow the prepared plans, not to prepare building permits and license processes proper to the city policies and planning principles and condoning illegal structures or lack of control are related to pre-disaster process.

Disaster sensitive planning of all types and sizes of planning is an important tool to reduce disaster damages and it is described as planning process taking into consideration the dangers (geological) and risks of natural disasters and preventing disasters and reducing the losses, and the need to ensure the integration the geological (geological-geotechnical) data into the planning is indicated for achieving disaster-sensitive planning approach. Ercis and Van have paid great price of getting caught to the disasters unprepared to these processes. The following observations can be made about Ercis and Van earthquakes.

1. Construction principles proper to the planning sensitive to disasters were disobeyed in the layout of zoning and planning of both Ercis and Van. In places, multi-storey building or apartment blocks policy have been followed for the last 15-20 years. We can add illegal and unlicensed construction with same features into these kinds of structuring. Building culture of designing ground floors as stores and opening them directly onto the streets has been in question.
2. The report which prepared by the Chamber of Architects, it is emphasized that the construction plan prepared for Van in 1994 wasn't foresee the excessive population growth after 2000, it is constantly changed within the framework of local construction plans and plan changes, this situation resulted in the emergence of formation unsuitable to ground conditions of Van. Having only 15% of licensed structures among approximately 60,000 structures in Van, having only 150 structures with architect signature among 500 licensed ones in Ercis that hosts a total population of 160.000 show the relationship between the earthquake and planning and construction scheme. The effect of the factors related to building quality on the conversion of the earthquake to disaster is specified. For example, significant damage occurred in the ground and first floors, buildings which should be 4-5 floor built as 7-8 floors, buildings were mostly illegal, there was a lack of control on the legal ones, the construction plans which don't take into consideration disaster data used and applications were maintained with refurbished plans, low concrete quality and similar observations are mentioned in the report.
3. These types of building structures have the most earthquake damage. It wouldn't be wrong to describe Ercis and Van earthquakes as a city earthquake considering the structures where mostly the middle and upper income groups' citizens reside. Again, it can be said that the groups who are mostly affected by the earthquake are mostly middle and upper income ones because of the same reasons. The most important feature of city spaces is that they are built in accordance of the class structure.
4. October 23 Earthquake was a devastating and caused life loss for Ercis. Multi-storey apartments turned into a pile of debris with the earthquake. Even though there were a few life loss in the couple of villages of Ercis, buildings and barns were heavily damaged. October 23 Earthquake in Van caused a few multi-storey buildings to collapse but it caused life loss in the villages very close to the epicenter of the earthquake. Therefore, it can be expressed that the actual effect of October 23 Earthquake is occurred in Ercis. November 9 Earthquake was almost entirely focused on Van. Despite its 5.6 magnitude, the effect was fairly large. The most dramatic side of November 9 Earthquake was the life losses in Hotel Bayram.
5. We can define November 9 Earthquake as an insidious earthquake for Van. That the citizens weren't at home because of the measures taken after October 23 Earthquake was the most important reason for the small amount of life loss. Again, this earthquake didn't collapse the structures as in Ercis but it damaged the buildings heavily. Therefore, it became one of the most challenging issues dealt by crisis management after the earthquake. Because the evacuation and demolition of heavily damaged buildings have been quite time consuming and costly. Let us noted that this process is still ongoing.
6. Not to take the precautions which should be taken before the earthquake hardened the problems arrived with the earthquake. Closures of the roads to the debris limited the possibilities of interventions to the earthquake mainly first-aid and rescue works. However, it could have been easier to reach the debris if principles like designing wider roads and having alternative transport routes and floor heights and towing distance in the construction plans were determined and they were obeyed. The possibility of collapse of a building always should be kept in mind and the area which will be covered by the collapsed building should be kept in the level of not to close the road. A settlement unit in disaster-sensitive planning is a safe and livable area beyond a simple land using decisions. Unfortunately, earthquakes have showed that the places we live in not healthy, safe and livable.

7. Some problems are experienced about putting the provisions related to disasters mainly Law No. 7269 into action. It is a rule of crisis management that authorities are needed to be gathered in the territorial governor. Indeed, it happened accordingly in Ercis and Van and a crisis center has been set up in both cities. It shouldn't be forgotten that the territorial governors are also victims. However, it is a fact that the city rulers are the ones knowing the city the best. Since these two facts were read well in Ercis and Van earthquakes, the territorial governors who worked in Van before was assigned in crisis centers. Thanks to this method that we can describe as a successful application in terms of crisis management, co-operation between the current territorial governors and appointed territorial governors, the representatives of other institutions were integrated into the crisis center and effective intervention to the crisis was made. The crisis which is managed through Ercis at the beginning was expanded to include Van after November 9.
8. The works crisis center must be done are needed to be planned separately. Search, rescue and first aid services, transportation and communication services, food and clothing distribution, the distribution of tents, damage assessment, coordinating debris and other security services are the duties that crisis management need to done during and immediately after the disaster. On the other hand, rapid migration began after the earthquake, the interruption of educational services; unemployment and poverty are the other important issue that needs to be focused on. Poverty merging with earthquake disaster put almost all of the citizens in need. The destruction in the rural areas is in the level that cannot be ignored. An important part of the life losses especially in the first earthquake in Van occurred in the villages of Van.
9. One of the issues to be addressed after each disaster is the inability of the helps. This issue is mentioned more especially in the places with higher rate of poverty.
10. Ercis and Van earthquakes have been a monument of sensitivity and brotherhood for all of our citizens. The high amount of helps and donations sent from all over the country showed this high sense of commitment and sensitivity. However, it should be also mentioned that there are some difficulties sorting and distributing the aids sent from our country and abroad. Everybody in the area where the earthquake occurred is a victim at least at the beginning. Thus, everyone is trying to survive in this panic environment. Perhaps the natural order situation Hobbes called is experienced mostly during these disaster moments. However, Law No. 7269 characterizes everyone as a victim. Maybe this could apply to the entitlement. It is hard to appease the people suffered the earthquake for the first moments no matter if their houses or stores is collapsed or not, if they have life losses in their family or not. Therefore, this fact needs to be considered while distributing tents and other needed materials. This situation has great importance in this city with high levels of poverty and least developed in terms of socio-economic development in our country. This approach has been adopted in the distribution of food and clothes in Ercis and Van earthquakes. Tent distribution have become the subject of criticism in the press and media because of the lack of inventory and being not suitable to the winter season. Therefore, not the assumption that an earthquake will occur but seasonal conditions are needed to be taken into account and the tents are needed to be stocked in the regional centers in enhanced amounts.
11. While a disaster has local property depending on the locations it occurred, it has a central character in terms of intervention possibilities. Planning many work and processes in center not local places will ease the disaster management. Van and Ercis Earthquakes became the first big test for Disaster and Emergency Management Presidency (AFAD) incorporating three institutions and established in 2009 by Law No. 5902. Despite joining disaster related institutions under the umbrella of an organization can be considered a positive development, shortcomings occurred during the process of damage determination has led to the institution to be criticized. No doubt this experience will be helpful to use the necessary information and the equipments more effectively in terms of the disaster that may occur in our country. In this regard, establishment of AFAD which is a central institution is important. However, it would be appropriate to develop and enhance the intervention resources of AFAD after this first experience. AFAD and TOKI (Housing Development Administration of Turkey) were the two important actors of Ercis and Van earthquakes. TOKI and AFAD were loaded with important functions in temporary accommodation. AFAD in the supply and delivery of containers, TOKI in organizing the infrastructure fields and Van Governorship in coordination have taken an active role in this process. The Ministry of Environment and Urbanization with both of these two institutions has become the most important actors in the reconstruction process in terms of the preparation of new development plans. Active role of these institutions in the process of reconstruction and building still continues. On the other hand, municipalities obliged to prepare emergency plans, building inspection agencies assigned to inspect the structures and non-governmental organizations worked in the earthquake come from around the country are needed to be added.

12. People faced with a very serious housing problem because of the big number of heavy and medium-damaged buildings which is not collapsed during the earthquake. The number of containers brought to solve the housing problem, cost and the ratio of the housing in the containers are the properties separating Van and Ercis earthquakes from the others. 35 container towns holding approximately 180 thousand people were established in Ercis and Van. These sizes of towns haven't been established before. Moreover, prepared guideline on the management of these areas is an important managing application. Housing problems of the people with destroyed or heavily damaged houses is solved by providing containers in winter conditions.
13. Facilitates methods in the followed procedures in terms of implementation of operation related to the determination of rights holders for permanent housing have been monitored. Satellite cities with over 15 thousand houses built for the earthquake victims in Ercis and Van were established. 3200 of these houses granted to the rights owners on September 4, 2012, the rest of them were intended to be granted in the anniversary of the earthquake on October 23, 2012.
14. Planning process related with Ercis and Van has been largely completed. The adoption of disaster sensitive principles in the new plans will minimize the loss of life and property in the case of this kind of disasters. Not only improving the quality of construction but also livable, safe and healthy cities needs to be built. Zoning, planning, building control with settlement system and the rules should be determined based on scientific principles. These issues are come up after every disaster and later forgotten. Reconstruction process depends on these actors to work in coordination.
15. All the problems encountered in the process of the earthquake are needed to be planned before. However, this planning is related with financing. On paper, the best plans can be made. However, if the financial sources to apply this plan are not enough, there will be gaps in the plan in a short time. Planning shouldn't be made in a way to open a way to exclusive construction rights and rant. Rent and exclusive construction rights are the biggest enemies of a fair plan. Plans are needed to be prepared proper to the realities of the region and the country together with new investment areas and basic public and social services. New investment programs proposed for Van are should be evaluated together with the works for being health city, tourist city or textile city and projections related to that fields should be prepared. Education, health, trade and industry, employment, agriculture and livestock, damage assessment, determination of temporary and permanent residential areas and access to social facilities are earthquake related topics. Preparing the disaster scenarios related to all of these areas would lessen largely the problems encountered during a disaster. However, as long as the disaster sensitive construction and planning has not been established, we would have faced with the same life losses. Other measures will help to normalize the life quickly after the disaster.
16. It is needed to be added that the problem is not only the building quality, building stability and uncontrolled buildings but also urbanization nature, format, excessive population density in big cities, the imbalance in the population distribution, not taking into account the factors related to earthquake-resilience in making and applying the city plans and illegal construction and squatters and indicating that it is related to the human and natural disaster lost its naturalness in this condition (Keleş, 2012: 606). The problem should not be examined in the technical and institutional level, but also in the location of the social classes in the social structure and fragility level towards the earthquake. Implementation of the measure foreseen in the legal and institutional level has direct relationship with the social classes' affords (Şengül, 2010:309-342). It is suggested that identifying multi-way risks in urban environment, solving the city in scientific methods by considering the city's physical, economical and social characteristics and limiting planning activities related to disasters only with a conservation plan (disaster-sensitive planning) are wrong (Balamir, 2012a). The construction of the safe cities is not possible with partitive, plans covering only a portion of the city but with comprehensive plans covering the whole city. Because it is not possible to guess where in the city people get caught by an earthquake. As it can be seen in Ercis and Van earthquakes, it showed us that the city should be planned as a whole since many people get caught and died by the earthquake on the road outside of their houses, in the workplace, next to the walls by walking, during shopping, in the coffee houses, in hotels or their relative's houses. Therefore, at each stage, a disaster sensitive, holistic, considering the position of social classes planning approach should be applied.

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