ANALYSIS OF LOCAL ACTORS IN DISASTER MANAGEMENT THROUGH ORGANIZATIONAL ASPECT IN TURKEY

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ABSTRACT

ANALYSIS OF LOCAL ACTORS IN DISASTER MANAGEMENT THROUGH ORGANIZATIONAL ASPECT IN TURKEY

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Rapid increase in the world population, unplanned urbanization and the density in metropolitan regions cause disaster losses to increase. Thus, the structure, extent and organization scheme of disaster management became focal point and should be considered in details along with "disaster risk management" processes, which have changed and developed over last 25 years. The governance concept arisen under the influence of neo-liberal policies constitutes one of the trivets of new perception with its participation, accountability, transparency, predictability, and decentralization characteristics. Many countries have gone into a change in light of this new perception with their disaster mitigation policies. The disaster legislation which has been changed on a large scale, laid bare the insufficiency of current legislation and the need for different perspectives, especially at the local level.

This argument constitutes the basis of the thesis. In order to validate this argument, the disaster management policies in Turkey are analyzed in terms of legal and organizational dimensions and its relation with local is evaluated. While doing this, governance-based criteria from milestone events carried out under the presidency of United Nations and their documents are considered.

The study showed that the disaster laws in Turkey are quite weak. In addition, it is observed that Turkey has approached a more centralized structure with new and edited laws after 1999. This has resulted in a decrease in participation of local and an increase in technical weaknesses. In the light of analyses, it is concluded that the

infrastructure of governance in Turkey has been established and there is a need for local disaster management policies to be developed. In this manner, integrated, legal changes should be made on all laws regarding disaster.

Keyword: Governance, Locality, Disaster Management, Complexity Theory

ÖZ

TÜRKİYE'DEKİ YEREL AKTÖRLERİN AFET YÖNETİMİNDEKİ YERİNİN ORGANİZASYONEL AÇIDAN İNCELENMESİ

Çelik, Aylin

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Dünya nüfusunun her geçen gün artması, çarpık kentleşme ve metropolitan alanlarda yoğunluk artışı karmaşık ve tahmin edilemeyen bir olay olan afetler sonucunda ortaya çıkan kayıpların her geçen gün artmasına yol açmıştır. Bu neden ışığıyla özellikle son 25 senedir değişen ve gelişen "afet risk azaltma" çalışmalarında afet yönetimin yapısı, boyutu ve barındırdığı organizasyon şeması üzerinde oldukça detaylı düşünülmesi gereken bir konu haline gelmiştir. Günümüzde etkisi oldukça hissedilen neo-liberal politikaların etkisiyle ortaya çıkan yönetişim kavramının özellikle katılım, hesap verebilirlik, şeffaflık, tahmin edilebilirlik ve yerelleşme özellikleriyle afet yönetimindeki yeni anlayışın sacayaklarından birini oluşturmaktadır. Bu yeni algıyı temel alarak birçok ülke afet sakınım politikalarında değişime gitmiştir. Bunun önemli bir örneği de 1999 Marmara Depremleri sonucunda ağır kayıplar vermiş olan Türkiye'dir. 1999'dan sonra oldukça değişen afet mevzuatı, 2011 yılındaki Van Depremlerindeki kayıplarla yeterli olmadığını ve özellikle yerelde farklı bakış açılarına ihtiyaç duyulduğunu gözler önüne sermiştir.

Bu sav, tezin temelini oluşturmaktadır. Bu savı doğrulamak amacıyla, Türkiye'de afet yönetim politikalarını yasal ve örgütsel boyutunu incelenme ve yerelle kurduğu ilişkiyi değerlendirme yoluna gidilmiştir. Bunu yaparken Birleşmiş Milletler başkanlığında yapılan yapıtaşı olaylardan ve dokümanlarından çıkan yönetişim temelli özellikle yerelleşmeye katkı sağlayacak kriterler göz önünde bulundurmuştur. Yapılan çalışma, Türkiye'deki afet yasalarının yönetişimin sacayaklarını oluşturan karakterleri barındırmada oldukça zayıf olduğunu göstermiştir. Bunun yanı sıra,

1999’dan sonra değiştirilen ve yeni çıkartılan yasalarda yerelleşmeden daha da uzaklaşılıp, merkezi bir yapı geri dönüldüğü gözlenmektedir.
Bu da yerelin katılımını oldukça düşürmüş, hep yapısal hem de teknik zayıflıkları artırmıştır. Buna dayanarak, Türkiye’deki afet yönetimi politikalarının Dünya’nın izlemekte olduğu politik değişimlerden giderek uzaklaştığını söylemek mümkündür. Yapılan değerlendirmeler ışığında, Türkiye’nin yönetişim temellerinin oturtulduğu ve bu temel üstüne oturtularak geliştirilecek yerel afet yönetim politikalarına ihtiyacı olduğu sonucuna varılmıştır. Bu anlamda öncelikle afeti ilgilen tüm kanunlarda bütünsel yasal değişikler gerekmektedir.

Anahtar Kelimeler: Yönetişim, Yerellik, Afet Yönetimi, Karmaşıklık Teorisi

To disaster survivors…

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LIST OF ABBREVIATIONS

AADYM	Disaster and Emergency Management Center (*Afet ve Acil Durum Yönetim Merkezi*)
AFAD	The Prime Ministry Disaster and Emergency Management Presidency (*Afet ve Acil Durum Yönetimi Başkanlığı*)
AKUT	Search & Rescue Association (*Arama Kurtarma Derneği*)
AYKOME	Infrastructure Coordination Center (*Alt Yapı Koordinasyon Merkezi*)
AZAT	Disaster Risk Reduction Teams (*Afet Zarar Azaltma Takımları*)
BAADYM	The Ministries' Disaster and Emergency Management Centers (*Bakanlıkların Afet ve Acil Durum Yönetim Merkezleri*)
CAS	Complex Adaptive Systems
CERT	Community Emergency Response Team
CRED	Centre for Research on the Epidemiology of Disasters
CSO	Civil Society Organizations
DASK	Turkish National Catastrophe Insurance Pool (*Doğal Afet Sigortaları Kurumu*)
DE-SE-YA	Earthquake Flood Fire
DRM	Disaster management
DRR	Disaster Risk Reduction
DSI	State Water Works (*Devlet Su İşleri*)
EHA	Energy Technologies Area
EMDAT	Emergency Events Data Base/The International Disaster Data Base
FEMA	Federal Emergency Management Agency
GDP	Gross Domestic Product
GIS	Geographic Information Systems

HFA	Hyogo Framework for Action
IAADKK	Provincial Disaster and Emergency Coordination Board (*İl Afet ve Acil Durum Koordinasyon Kurulu*)
IAADM	Provincial Disaster and Emergency Directorate (*İl Afet ve Acil Durum Müdürlüğü*)
IAADYM	Provincial Disaster and Emergency Management Center (*İl Afet ve Acil Durum Yönetim Merkezi*)
IDNDR	International Decade for Natural Disaster Reduction
IEMS	Indianapolis Emergency Medical Services
IPCC	Intergovernmental Panel on Climate Change
ISDR	International Strategy for Disaster
ISMEP	Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (*İstanbul Sismik Riskin Azaltılması ve Acil Durum Hazırlık Projesi*)
JICA	Japan International Cooperation Agency
KBRN	Chemical, Biological, Radiological and Nuclear (*Kimyasal, Biyolojik, Radyolojik ve Nükleer*)
MAG	Neighborhood Disaster Volunteers (*Mahalle Afet Gönüllüleri*)
MIT	National Intelligence Agency (*Milli İstihbarat Teşkilatı*)
MOFA	Ministry Of Foreign Affairs
MTA	Mineral Research & Exploration General Directorate (*Maden Tetkik ve Arama Genel Müdürlüğü*)
NGO	Non-governmental organization
NIST	National Institute of Standards and Technology
NPO	Non-profit Organization
NSF	National Science Foundation
OBS	Ocean Bottom Seismic Sensor System
ODA	Official Development Assistance
SDF	Self Defense Force
SFDRR	Sendai Framework for Disaster Risk Reduction
TAG	Community Disaster Volunteers (*Toplum Afet Gönüllüleri*)
TAMP	Disaster Response Plan of Turkey (*Türkiye Afet Müdahale Planı*)

THW	Techicnes Hilfswerk
THY	Turkish Airlines (*Türk Havayolları*)
TMB	Turkish Contractors Association (*Türkiye Müteahhitler Birliği*)
TOBB	The Union of Chambers and Commodity Exchanges of Turkey (*Türkiye Odalar ve Borsalar Birliği*)
TOKI	Housing Development Administration (*Toplu Konut İdaresi Başkanlığı*)
TRT	Turkey Radio and Television Corporation (*Türkiye Radyo Televizyon Kurumu*)
TUBITAK	Turkish National Research Council (*Türkiye Bilimsel ve Teknolojik Araştırma Kurumu*)
TUSIAD	Turkish Industrialists' and Businessmen's Association (*Türk Sanayicileri ve İşadamları Derneği*)
UDSEP	National Earthquake Strategy and Action Plan (*Ulusal Deprem Stratejisi ve Eylem Planı*)
UKOME	Transportation Coordination Center (*Ulaşım Koordinasyon Merkezi*)
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNIRED	University Network for the Disaster Prevention and Relief (*Red Universitaria para la Prevención y Atención de Desastres*)
UNISDR	United Nations International Strategy for Disaster Reduction
USA	United States of America
USGS	United States Geological Survey
WB	World Bank
WHO	World Health Organization

CHAPTER 1

DEFINITION OF PROBLEM

1.1. INTRODUCTION

Even though it does not have a common definition, the “risks," with which every living organism on earth faced, are increasing day by day such that Ulrich Beck underlines that the society has become “risk society” after today’s world. He states that with this uncertainty of exposure, change and evolvement of management function is mandatory (2007). In an environment in which hazards turn into disasters with risks and cause severe losses, important steps on how the mitigation is carried out have been taken, and disaster management has become the focal point. The legal and institutional models to be applied in order to increase the management efficiency of actors who are affected from disasters and playing a role in mitigation plans and interfere in problems related to habitation effectively should be discussed again within this process. On the other hand, it is a crystal clear fact that the disputes happening between centralization and decentralization in a politic environment affect the “disaster management” which has an influence on and is influenced by politic, social and economic environment.

During the last decade, increasing number of disasters have resulted in a great injury in safety and welfare of civilians and countries. The number of people died is over 700,000 and injured is more than 1,400,000, and around 23,000,000 people lost their homes due to disasters. In total, the number of people affected from disasters directly or indirectly is around 1.5 billion, the ones vulnerable and at child age of which have more affected. Along with these, the cost of disasters is over $1.3 billion. In addition, around 144 million people had to move between 2008 and 2012 (UNISDR, 2012). Particularly in countries for which the effects of disasters are more severe, all the

populations in the world are on the line in terms of suffering from imputed costs and difficulties for fulfilling economic and social obligations. An integrated system of city planning and disaster management is necessary in order to overcome negative effects of disasters (Ahrens & Rudolph, 2006). In addition, according to the Global Assessment Record of 2009 related to Disaster Risk Reduction, the most important two elements that enhance disaster risk are lack of urban planning and governance at urban areas. The governance approach requires active participation of whole society in the decision-making process. Same requirement is highly relevant for managing disasters as it affects all the people in area it occurred.

Disaster management is so important process that if it fails, the results will be severe life and property loss. Government capacity to handle disasters can be strengthened by experts analyzing the occurrences and knowledge about disasters since there is no absolute formula, which fits in all situations, however, the experiences showed that physical intervention is not enough to reduce the risk. Turkey, which has encountered a number of natural and man-made hazards, is one of the countries that have not been able to use its resources efficiently since the occurrences of disasters are frequent, which also caused pressure on public administrations. However, the consequences of disasters which are similar in size compared to others in other countries were more severe in Turkey. The main reason why disaster risk reduction quite in sufficient in Turkey is the centralized form of administration in disaster management. Analyzing the disaster management system as before, during and after disaster, it encounters us as mitigation measures for before disaster, instant relief and survival actions for during disaster and recovery for after disaster. In legal and administrative structure in Turkey, mitigation part of laws and plans are examined shallowly and focuses on disasters as they happen and reconstruction after disaster. The Turkish government usually put the laws for handling disasters in force after they happened. The most explicit examples of this situation are Erzincan earthquake, which shapes the legislation of 1930 for meeting citizens' needs arisen after the earthquake (Kapucu and Van Wart, 2006), and 1999 Marmara earthquake which in general shape today's regulations.

In addition to this reactive approach of Turkish government, the disaster management system in Turkey is unsuitable for all types of disasters. For instance, this inability was best shown itself in 2014 Soma Mine Accident and 2015 Artvin Flood. The Turkish government had shown that they were not ready for such a disaster at all.

The current disaster system which is generally responsive is based on holding state agencies responsible through legislations. It can be said that administrative system is away from governance since the legislations in Turkey only mention participation in disaster management and focus on centralized management, and are a week in terms of predictability due to changes made only after disasters. Because the institutions established, and laws put in force without forming an infrastructure according to reports prepared and actions taken since HFA, these institutions and laws have been unable to give the desired success (JICA, 2004).

1.1.1. The Context and the Aim of the Thesis

This thesis focuses on the issues related to disaster management through governance aspect at the local level in a complex environment, which is characterized by sets of regulations, organizations and participation of local stakeholders. A background study of disaster discourse and governance in the complex is introduced. This thesis evaluates legislation, institutions and organizations affect DRM in local level in Turkey. In the study, although all disaster management phases reviewed from the governance perspective, additional focus made to emergency phase to emerge of self-organizations. The aim and mission of this thesis are to designate a critical perspective to development of disaster management through the governance scheme in respect to local actors in Turkey.

The context of our dissertation does not aim to find an answer to these grand questions, which evidently needs dozens of volumes of literature and many planning concepts to cover. What we aim here is to make a contribution to disaster management in local level in Turkey by identifying strength and weakness of legal framework, institutions and civil initiatives, in other words, local actors.

1.1.2. Research Method

The research relies fundamentally on literature study and surveys of documents, which make it an exploratory type of study. In chapter 3 and 4 written works and documents were primarily used as part of the evidential material in this research. Books, articles, government and national reports, conference proceedings, and research reports and documents were consulted in order to ascertain the current developments in DRM. Existing data, empirical findings, laws and other regulatory devices as well as standards within the field of disaster risk management were also investigated. For the evaluation of Turkey's disaster management system and exploration of the reasons underlying the resistance of the conventional system to the new understanding of disaster management changes in regulations and institutions are examined. Lastly, written reports and articles about Marmara and Van earthquakes review with civil initiatives perspective.

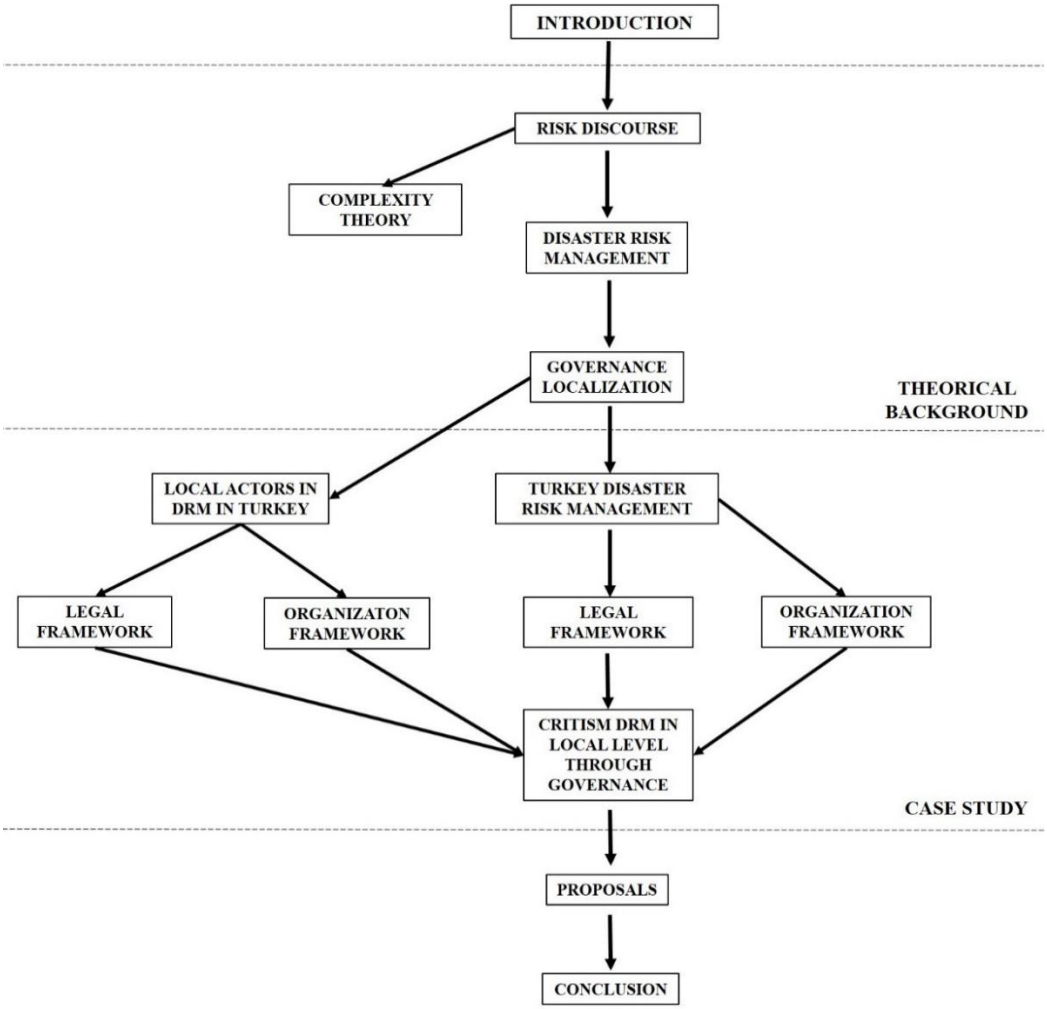

Figure 1. Conceptual map of the thesis

(The Author)

CHAPTER 2

THEORETICAL BACKGROUND

2.1. INTRODUCTION

This chapter aimed to identify cornerstone terms of disaster management literature. Following the definitions, governance and their attributes will be explained and the relationship between governance and disaster management will be provided. For better understanding, the definition and types of decentralization will be stated. Complexity theory and complex adaptive system are examined for better understanding disaster phenomena and focused on self-organizations in disaster management through complexity theory aspect. In the light of these definitions localization and complex adaptive systems will be analyzed.

2.2. RISK DISCOURSE

To explore more about disaster, first we need to make a distinction between disaster and hazard. Hazard is defined as a dangerous phenomenon, substance, human activity or situation, which could cause life and service loss, social or economic disruption, or environmental damage. They can comprise hidden characteristics carrying threats for future, and their origins can be different. Besides, disaster is described as a result of the combination of the exposure to a hazard and risk potential which causes a condition of being vulnerable means have insufficient capacity and measures to reduce or cope with the potential negative effects (UNISDR, 2009).

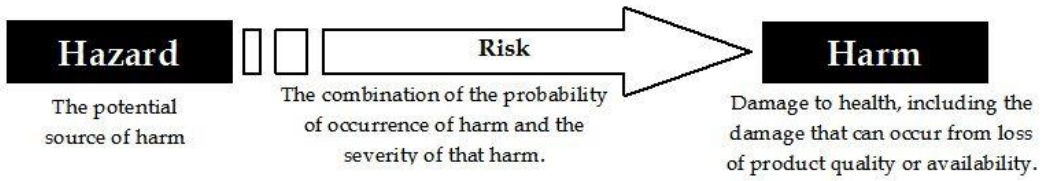

Figure 2. Hazard-Risk-Harm
(Banaitiene, 2012)

On the other hand, Centre for Research on the Epidemiology of Disasters (CRED) identifies disaster as "a situation or event which overwhelms local capacity, necessitating a request to a national or international level for external assistance; an unforeseen and often sudden event that causes great damage, destruction and human suffering" (2009).

Disasters are the convergence of hazards with vulnerabilities. Another key term is vulnerability, according to the Intergovernmental Panel on Climate Change (IPCC), is "the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. Vulnerability is a function of the character, magnitude, and rate of disaster and variation to which a system is exposed, its sensitivity, and its adaptive capacity" (IPCC, 2007,p. 21). In order for development activities be sustainable, disaster risk should be reduced. However, the term risk does not have a formal definition; indeed it has different definition for several subjects. Thus, definitions of the term risk and its theoretical backgrounds will be elaborated more in this study.

Disasters create chaotic environment, which is impossible to predict the exact effect of disaster both psychical and sociological. Such environments have been studied by researchers since the middle of 20th century. To understand behavior and characteristic of a chaotic environment, we will examine complexity theory in following sections.

The United Nations International Decade for Natural Disaster Reduction (IDNDR) which ended in 1999, made a major contribution to international community awareness of the need to move from reactive to measures towards proactive integrated disaster management. Integration between all stakeholders, such as government, business, non-governmental organization, vulnerable people, media and universities needed to be built on solid sand.

How multi-stakeholder will be integrated depends on the type of disaster management. The structure of the disaster management depends on the policy of the country, culture of society, and economic and development levels. In general, understanding the management as a system, actors are the components of the system and the main goal of this system is to reduce the disaster effects.

Connection and relation between them are formed according to vertical horizontal hierarchy and thus, different system characteristics are needed. In this study, the management system will be discussed in terms of complex adaptive theory, which is one of the most successful theories for non-linear environment with its additivity and co-evolution, even its base is system theory.

2.2.1. Definition of Risk

Risk has been existed since the history of mankind. It is everywhere in present day's society, from accidents to climate change, epidemics to terrorism, even selection of eating habits. To continue its survival, mankind always decides how much risk will be taken. Our aim is to minimize risk by perceiving, taking, assessing and managing it. Although studies on the risk is very old, having a common definition is quite difficult. The use of the term "risk" in the increasing volume of interdisciplinary literature is so heterogeneous that some authors even argue that there are hardly any connections at all (Garland, 2003). These definitions can vary based the context of study. Risk is defined as "A person or thing regarded as a threat or likely source of danger" in Oxford dictionary (Oxforddictionaries.com, 2015). UNISDR defines risk as a probability of a hazard transform to a disaster. Another definition of risk is "an

uncertainty that the possibility of occurrence would affect one or many objectives" (Hillson, 2015, p. 22).

In all discussions, the common point about existence of risk is having a chance of an adverse event and scale of its consequences (Rayner and Cantor, 1987). The idea of "risk" is connected with the possibility to change future by human activities or at least perceives it. We can affect the occurrence of an event, or we can at least make procurement for aftermath (Zinn, 2008). Another opinion about presence of risk is need made by Holton (2004). He claims that to talk about risk, we need two factors. One is to have uncertainty about possible result from an experiment, and the other one is that the consequences should have effect on producing utility. When we divide risk to different perspectives, it is getting highly different by looking how they describe risk.

There are two kinds of realistic perspective of risk. First, one is approaching risks as actual event or dangers, which can be approached objectively without being confounded by subjective and social factors (Renn, 1992).

Second one is that risk is managed by people's subjective bias. In other words, although people are able to find out the best to respond to risk, observable personal judgements and perceptions depart regularly (Zinn, 2009).

The psychometric approach argues that "Risk does not exist 'out there', independent of our minds and cultures, waiting to be measured" in other words, risk, which is perceived by people, is subjective and affected by peoples' social, psychological, institutional and cultural factors (Slovic, 1992).

In the social context, risk has functional definition, which is one's own action, only if future is mastered or influenced by mankind .Anthony Giddens defines risk as "actively assessed in relation to future possibilities" (Giddens, 1999). A central assumption in sociology is that risk is a social construction in a particular historical and cultural context, but there are different notions of constructivism. There are two

extreme positions. A radical constructivism in the style of some post-modern authors claims that reality is linguistically constructed and denies a world outside. The other position is the dualism of objectivism and constructivism widely disseminated in the risk debate, which interprets risks as something that could be described independently of the social context and on the other hand, gives a subjective and social interpretation of these objective risks (Slovic, 1999).

At governmentality point of view, risk is identified as a specific approach to manage uncertainty by calculative procedures, which are provided with meaning within institutional and diagnostic processes (Zinn, 2008).

Epistemological level of risk is highly related with a system theory approach which describes risk as constituted by decision making and the ascription of decisions to social actors, in fact, risk is part of all decisions.

Table 1. Risk Epistemology in Different Disciplines and Approaches

Risk as a …	Perspective	Approaches
Real and objective	Calculate circumstances objectively	Technical risk assessment, insurance, epidemiology, toxicology
Subjectively influenced	Subjective perception and calculation generate objective risk	Psychometric paradigm, rational choice: objective/ subjective utility
Socially intervened	The subjective experience of real risks mutually influence and produce each other	Edgework
Real and socially constructed	Reality and talk about risks mutually influence and produce each other	Cultural theory
Socially transformed	Real threats are transformed into risks for sociocultural boundaries	Governmentality
Socially constructed	Events are risks insofar as they are part of a calculative technology Risks are socially ascribed decisions	System theory

(Zinn, 2008)

In our neo-liberal society, the "risk in government" scholars have highlighted how risk is increasingly being downloaded from governments, both to individuals and to business, to private institutions and organizations (Ericson, Doyle and Barry, 2003). This downloading of the burden of risk is in part a response to broader political and financial shifts, and resulting economic insecurities that also feed into the climate of doubt and fear (Doyle, 2007). In this thesis, we will mainly use UNISDR definition of risk, which is affected by hazard and vulnerability.

Risk can be handled by these phrases: identification, assessment, evaluation and management and communication (Katzav, 2015). Identification of risk, as mentioned above, shows differences based on various aspects.

2.2.2. Risk Assessment

Risk assessment is basically a procedure of designation nature and scope of a risk. By hazards and examining existing conditions, the level of vulnerability against such disaster, which may result in financial and emotional damage, can be determined. While assessing risk, general knowledge and data, which are incomplete and uncertain, is used. This process is carried out by experts (Katzav, 2015).

2.2.3. Risk Evaluation

It is a process that is executed by every component of a society for determining whether the risk is acceptable or not. In case the result of evaluation is negative, then risk reducing measures are taken. This process continues until a point determined by society as acceptable under risk management (Kolluru, 1995; Zimmerman, 1986:436). The result of the risk assessment process depends on perception of risk. Risk perception consists of assessment of probability and the results of an undesired result. Beyond individuality, perception of risk reflects the cultural and social background (Weinstein, 1989) and includes emotion-oriented states, e.g. fear, worry, and anticipation (Katzav, 2015).

2.2.4. Risk Management

Risk management provides a framework for the risk assessment and evaluation activities in an institutional context. Risk management comprises process/product changes, governance, and participatory decision-making (Katzav, 2015). AFAD describes risk management as assessment, reduction and division of risk types and levels nationally, regionally, provincially and locally.

In general, risk covers every action and decision that humans made. However, in our study, we mainly focus on disaster phenomena.

2.3. DISASTER MANAGEMENT

UNISDR defines disaster management as "The systematic process of using administrative directives, organizations, and operational skills and capacities to implement strategies, policies and improved coping capacities in order to lessen the adverse impacts of hazards and the possibility of disaster" (2009). Disaster management is a continuation of broader term risk management. The main objectives are to prevent, reduce and transfer negative effects of disasters through mitigation, response, preparedness and recovery measures. The concept of disaster management or disaster risk reduction has evolved through time. It is a dynamic system composed of "rule" or a "dynamic" which tells how the system evolves and "initial condition" or "state" from which system has started (Koehler, 1995). Such system systems are usually analyzed by complexity theory. In the next section, we will discuss the origin and characteristic of the theory.

In disaster literature, risk management is continued as a circular chain of processes. The rings of this chain are prevention, preparation, response and recovery, which are in general referred as mitigation. Objective of mitigation can be listed as follows:

- Saving lives;
- Reducing economic disruption;
- Decreasing vulnerability & increasing capacity;

- Decreasing change/level of conflict (WHO/EHA)

Although each of these components has its own definition, failure of execution of one step will create a domino effect and other will fail too. Thus, every step should be managed with a great attention according to their positions in terms of actor and financial structures of them.

Figure 3. Disaster Management Cycle
(Bencana, 2011)

Disaster management usually defined as four phases, but prevention is the best protection against disaster, natural or man-made. Prevention can be described, in general, as the identification and minimization of the risks posed by the building, its equipment and fittings, and the natural hazards of the area. Preparedness phase includes getting to cope. In this phase, disaster response teams are established and trained in disaster response techniques. In addition to manpower, up-to-date documentation is prepared and kept, such as arrangements, which are made for accessing the freezing facilities for food. After preparation, these documents along with plans are distributed to appropriate locations and people following notification.

Then, these plans are applied and people are assembled as soon as possible. The next phase, i.e. Response, includes the establishment of emergency procedures for rising alarm, evacuation and making the disaster site safe, communication with disaster response team leaders for directing and briefing the trained salvage personnel, assessment of the extent of damage, and the equipment, supplies and services required in a disaster site. The last phase is the recovery, i.e. getting back to normal. In this phase, a program is prepared for restoring the disaster site. While doing this, taking advantages of educational sessions, particularly disaster planning workshops and preparedness exercises will be helpful (UNESCO; retrieved in 2005).

Although generally disaster phase can be divided to pre-disaster, emergency and post disaster how to act to manage and reduce disaster risk varies from country to country. Some successful country's DM structures are elaborated for this reason.

Disaster Management in United States

Coordinating organization of USA, which is responsible for emergency and disaster management, is Federal Emergency Management Agency (FEMA). USA has a mechanism ready to act as soon as a disaster occurs, which has organized FEMA as “an organization in the service of citizens." National emergency and rescue work in USA projects the participation of public and private institutions and organizations on the local and federal level with a participatory approach. How these organizations work together is determined according to a very detailed “Federal Response Plan." According to this plan, 12 different emergency functions, to provide food from the debris removal, are determined, and it is organized that which function will be provided by which teams with what resources and this information are adopted by related authorizations.

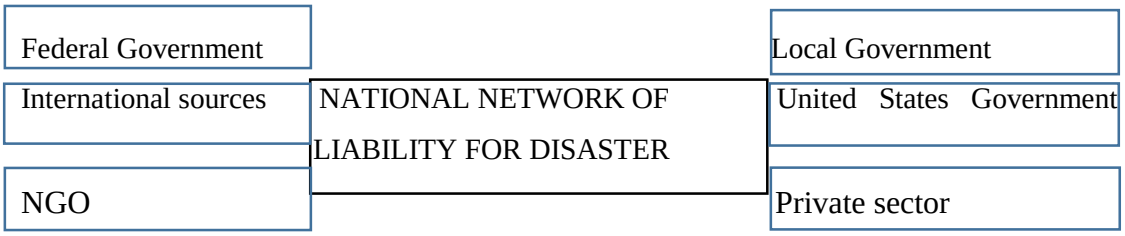

Figure 4. Related institutions and organizations which participate in response to disasters and emergencies in United States
(FEMA, 2002)

This program works for determination the vulnerability of residential and investment areas against earthquake, designation of seismic design and construction standards, development of earthquake prediction capacity, education of state governments, the business world and the general public about all these matters.

On the other hand, zoning regulations are determined by "Uniform Building Code" nation-wide. USGS, NIST and NSF separate the American geography into danger zones with different levels and allow determination of the zoning conditions specific to the regions in addition to general standards.
As can be seen from Fig. 2, the disaster management system of USA does not only consist of the government or disaster coordination centers dependent on it. It draws attention that not only the government but also the private sector and voluntary organizations take responsibility and fight against disaster together.

Disaster management in Japan
The Japanese Government builds its disaster recovery structure on prediction and forecasting the disasters. The natural formation – the "deep earthquake producer" – to the east of Japanese shores which are lying through the Asian plate is always monitored. Even this region is not on the main land, it brought the necessity of the organization "Tokyo Japan Disaster Counter Measure" which is monitored all the time against tsunamis and large earthquakes that can occur on the continental shelf. Thus, works have been carried out in order to build "Ocean Bottom Seismic Sensor

System" (OBS). By this, it is aimed to notify the main land against possible shock waves and predetermine the tsunami waves so as to save thousands of people.

In addition, it is aimed that the country has a "National Disaster Early Warning and Management" structure along with an organization at the national level, which is supervised by an active Geographic Information Systems (GIS) and allow authorization of wide planning and operations powers at regional and local level.
There are four basic levels of responsibility for shaping the national emergency management model. These are:

- National level;
- Regional level;
- Local Level
- Community- individual level.

National Level

Central Disaster Prevention Council which gathers under the presidency of the Prime Minister is responsible for preparation of disaster prevention plans and general plans related to preparations. The council carries on coordination and institutional assignments and decision makings about plans rather than operational planning related to disasters.
The organizations which are responsible for operations at national level and plans and decision related to these are government bodies and public organizations assigned. These are the base components of the operational planning and responsible against Central Disaster Prevention Council.

Regional Level

Regional Governor is responsible for organization, implementation and, if necessary, expansion of the operations. Regional Governor is the president of Regional Disaster Prevention Council. Regional Disaster Prevention Council performs its actions according to general decisions at national level. Besides, it is responsible for

specifying the responsibilities of the regional executive bodies and regional public organizations and carrying out the necessary assignments.

Municipal Level

It is responsible for every kind of preparation, planning the operations and execution of them. This is valid for every unit which has a municipal organizational structure. Municipal Disaster Prevention Council is responsible for disaster preparations and taking necessary measures for any disasters under the presidency of mayor.

Community- Individual Level

It aims to prepare and make the public resistant against disasters and organize community organizations and other voluntary organizations. The operational function of the Japan DRM is under the surveillance of National Land Agency. It is also responsible for coordination with other parallel functions such as Maritime Safety Agency, the Meteorological Agency dependent on Ministry of Communications. It carries out its activities at two different stages as disaster situations and other situations. It provides the organization and is responsible against Prime Ministry directly. (Erkal & Değerliyurt, retrieved 2015)

2.4. EVOLUTION OF RISK REDUCTION

Since 1990s, United Nations (UN) disaster policy has shifted from disaster response approach to disaster risk reduction efforts (DRR).

To support and expand this policy through nations, UN have been launching programs and holding conferences & workshops. Here are some milestone events and their discourses about this new paradigm.

2.4.1. International Decade for Natural Disaster Reduction (IDNDR) (1990-99)

UN declared this decade to and the aims of this declaration were and still are to reduce the losses from natural disasters and enhance the engineering and scientific know-how in order to achieve the former goal.

To minimize through collective international actions, especially in developing countries, the loss of life, property damage and economic dislocation caused by disasters and other disasters of natural origin such as a grasshopper;

> Develop measures for the assessment, prediction, prevention and mitigation of natural disasters through programs of technical assistance and technology transfer, demonstration projects, and education and training, tailored to specific disasters and locations, and to evaluate the effectiveness of those programs. (Preventionweb, retrieved 2015, p.1)

2.4.2. First World Conference on Natural Disaster Reduction: Yokohama Strategy for a Safer World

To decrease disaster relief need importance given to disaster prevention and preparedness and participation of all level stakeholders create most effective prevention measures. "Vulnerability can be reduced by the application of proper design and patterns of development focused on target groups, by appropriate education and training of the whole community." (UNISDR, 1994)

2.4.3. Some key strategies expected to be happened by the time 2000

- Self-determine policy adaptation through all vulnerable countries and society comprising capacity building, effective use of resources and allocation;
- Increase public awareness with the active and constructive role of media about disaster risk reduction;
- Involvement and active participation of the society in DRR, especially pre disaster phase, leading more effective disaster management;
- More attention be given to projects which build up community based approaches through advertise of business opportunities;
- Encourage non-governmental organization involvement in DRR. (UNISDR,1994)

In actions, it is seen that Yokohama Strategy suggested that there should be a special attention on the role of local institutions like media, community, NGOs, business and strengthen all institutions at all levels. Moreover; it is emphasized that if participation

of the local community is achieved, then mitigation efforts would be successful (Çalışkan, 2014).

2.4.4. Establishment of International Strategy for Disaster Reduction (2000)

"To serve as the focal point in the United Nations system for the coordination of disaster reduction and to ensure synergies among the disaster reduction activities of the United Nations system and regional organizations and activities in socioeconomic and humanitarian fields" (UN General Assembly Resolution 56/195).
One of the crucial duty of ISDR is to set up or strengthen regional and local governance within institutional and policy framework. It has been coordinating milestone events (Hyogo Framework, The Global Platform for Disaster Reduction, Sendai Framework, and National Platforms), promoting campaigns (Making Cities Resilience, International Day for Disaster Reduction, and UN Sasakawa Award for Disaster Reduction), and informing all stakeholders by best practices, reports and academic publications (UNISDR, 2015).

2.4.5. Kobe Conference (2005), Hyogo Framework for Action (2005-2015)

The scope of this Framework for Action (HFA) comprises all kind of disasters caused by hazards of natural and technological hazards and risks. With this approach it represents a holistic and multi hazard approach to DRM and its relations between social, economic, cultural and environmental systems, as emphasized in the Yokohama Strategy.
It pinpointed some challenges that contributors faced while implementing Yokohama Strategies which were;

More systematic operations for including disaster risk into sustainable development approaches and in building resilience through enhanced national and local capacity building actions for being resilient by risk reduction and management;

Emphasizing the significance of DRR built by a more pro-active approach to public involvement, motivation and informing in all aspects DRR in their local communities.

HFA stated that priority should be given to disaster risk reduction with a powerful institution arrangements, for example by the establishment of "national platform" which is a multi-sectoral, with designated responsibilities at the national through to the local levels to facilitate coordination across sectors and by specificity of local risk status, decentralization of responsibilities and resources for DRR to well-suited subnational or local governments. Moreover, it suggested that "communities and local authorities should be empowered to manage and reduce disaster risk by having access to the necessary information, resources and authority to implement actions for disaster risk reduction" (UNISDR, 2005).

2.4.6. Incheon Conference and Declaration: Campaign on Building Resilient Cities, Addressing Urban Risk (2009-2012)

Call for participation from mainly Asia and Pacific region for DRR, climate change and poverty reduction (UNISDR, 2009). The main intentions were to identify local governments as global actors, establishment of "local government association", campaign promotion to concentrate on urban risks and successful application endorsement. Conference is also known as "Building a Local Government Alliance for DRR". (UNISDR, 2012)

2.4.7. Chengdu Declaration (2011)

The theme was Development and Cooperation among Cities: Building Livable Cities for Humanity. It provided a platform for local authorities to share and transfer their experiences, knowledge and deliberate on the challenges and opportunities both urbanization and city development around four topics:

- "Urban Planning and Design for Disaster Resilient Cities"
- "Disaster and Emergency Management of Cities"
- "Urban Economic Transition and Sustainable Development"
- "Bilateral and Multilateral Cooperation for Sustainable City Development"

Some actions:

The purpose of establishing a sister city model is to search for a joint effort to share strategies, well-done practices and technical assistance by collaboration. With the help of this model local government will increase their urban planning capacities and promote sustainable community involvement. Moreover, commitment of the sister city model will enhance international perspectives about risk reduction by connecting multi stakeholders like mayors, non-governmental organizations, financial leaders, local governments, volunteers.

Having insufficient human and fiscal capacity, especially with respect to budget allocations for planning and disaster management measures of local governments is needed to have special attention from national governments and bureaucrats. Furthermore, the tax systems or relevant bill systems and legislative structures should be reviewed or renewed for that purpose.

Ensuring collaboration between universities and research institutions with local governments and city administrations and encouraging community groups, citizens, local governments, youth groups, business associations and others to organize outreach awareness raising events in each city participating in the My City Is Getting Ready! Campaign. The campaign started in May 2010, addresses concerns of urban risk and local governance. Resilient City campaign entered a second phase in 2012, which was implementation phase. In 2011 award had given as Sasakawa Award to San Francisco/Philippines, Santa Fe/Argentina, and North Vancouer. According to Balamir common thread to all these cities are having effective local government and integrate disaster risk reduction to urban planning (2012). 274 cities have reported progress that signed up campaign by the time 2014 (UNISDR, 2014).

Giving power to all stakeholders to increase participation at emergency management and better make relief/recovery operations as a result to make disaster management more powerful at local level for sustainable development of the society.

2.4.8. Sendai Framework for Disaster Risk Reduction (SFDRR) (2015-2030)

It aims to achieve "the substantial reduction of disaster risk and losses in lives, live hoods and health and in the economic, physical, social cultural and environmental assets of persons, businesses, communities and countries". It stressed four priority areas needed to take action at local, national, regional and global levels.

- Understanding disaster risk
- Strengthening disaster risk governance to manage disaster risk
- Investing DRR for resilience
- Enhancing disaster preparedness for effective response, and to «Build Back Better» at post disaster.

It stressed that disaster risk governance in global, national and local levels with active participation of all relevant actors essential for disaster management. Roles and responsibility of all actors will be built upon the coherence between national and local laws, regulations and public policies to promote, guide and encourage both public and private actors to participate DRM. Guiding principle of it is to increase physical and financial resources both local authorities and communities and also give decision making responsibilities (UNISDR, 2015).

Glancing at the period of 25 years, some key elements constituting disaster management framework are governance, community involvement, integrated management, decentralization, raising awareness and participation at local, increasing local capacities and multi stakeholder approach. Some opinions reflecting the necessity of disaster management being conducted in a multi-stakeholder system in local level and various action plans for overcoming the challenges of this process is presented.

Another important point is that the need of not only local government and non-governmental organizations but also all of the stakeholder involvement are

mentioned. It is indicated that all of the stakeholders existing at local level has a responsibility in disaster management.

Although starting from HFA, a holistic proactive perspective to DRR has been prompted, the accomplishment is insufficient and mostly focused to some priorities for action (Calliari and Mysiak, 2013). Most importantly, in terms of physical, social and economic losses HFA has not achieved a substantial reduction besides most of the spending's made to disaster relief and recovery projects (Kellet and Caravani, 2013).

According to Balamir, "neither has the participation of Turkey in the Global Platform in 2007 produced tenable results. Despite the fact that numerous countries revised their disaster policies for risk mitigation Turkey as one of the current extreme risk cases in the world remains totally alien to the new policy" (Balamir, 2008). Besides that, in the recent report (2013-2015) of The Prime Ministry Disaster and Emergency Management Presidency prepared for UNISDR highlights some recent changes and improvements to catch up HFA priorities.

- Establishment of Prime Ministry Disaster and Emergency Management Presidency (AFAD) in 2009 aim of achieve sufficient, effective and integrative institutional, administrative and legal structure in disaster management in Turkey;
- Establishment of Turkey Platform for Disaster Risk Reduction (National Platform). The intent of it to increase disaster awareness at the community level, to provide coordination and collaboration in consideration of maintaining sustainability in disaster related topics like estimation of needs and to monitor and evaluate applications in order to help the contributing integration of sustainable development plans and disaster risk reduction policies. National Platform compose of 17 Governmental institutions, 8 Civil initiatives, 5 University, 15 Local Authorities; 6 of them governorate, 7 municipality, 3 private sectors, 4 media and a national associations. List of the institutional is in the Appendix I;

- “Disaster Management” elaborated for the first time in “The Tenth Development Plan” (2014-2018);
- Disaster Response Plan of Turkey (TAMP) have been prepared and accepted as official state documents;
- With the Law of Transformation of Areas under Risk No.6306 cooperation between Ministry of Environment and Urbanization, central administrations, local administrations, professional chambers, NGO and society enhanced in order to build disaster resilient cities. Moreover, the responsibility to demolish risky buildings and to supply housing for the poor given to municipalities;
- Disaster and Emergency Plans are prepared in every city by local administrations of AFAD in accordance with National Plans;
- Local authorities have initiated the establishment of building inventories in provinces throughout Turkey;
- Multiple education programs conducted by government coordinated with both international and civil initiatives;
- Establishment of Turkish Catastrophe Insurance Pool/ DASK which is responsible for insurance coverage against earthquakes;
- Istanbul, Antalya, Gaziantep and Bursa participated “Making Cities Resilient” act, and their activities are continuing. Only Gaziantep have sent a report of developments, however it is still very preliminary;
- To implement DRM plan and activities all resources dedicated to all administrative levels. Although institutional commitment attained, achievements are not comprehensive and substantial;
- Participation of society and decentralization is assured through the delegation of authority and resources to local level. Fundamental changes in legislation and regulations ensure re-defining the scope local government;

The importance of bottom to top, proactive and multi stakeholder approach is highly stressed both evolution of DRM approaches and its effects on Turkeys’ DRM

alterations. Focus will be made to local level as it is the lowest institutional level for disaster mitigation.

2.5. LOCALITY

Keeping pace with rapid change around the countries and reaching the necessary change speed are essential for countries for maintaining their existence (Emni, 2009). As an indicator of the change came along with rational approach, the distribution of responsibilities, decentralization and governance now dominate while the traditional management approach suggests organization from top to bottom, as the chain of command, according to the theory of bureaucracy which indicates that the rationality of the organizations comes from upper levels. The concept of subsidiarity, which contains localization, being in secondary status, is to replace something (substitute), to strength the support, help senses. Keleş (1995) has also been argued within the European Union since 1970 as it is indicated in the 1985 European Charter of Local Self-Government (Article 4) publicly and corporately and has become a part of European Union law with The Maastricht Treaty in 1992. According to this, the services will be executed by the organizations closest to public and with the participation of the public as much as possible (Görmez, 1997) and thus, the community economizes in situations in which the goal will be reached better and more effectively via an economization realized by the community since the goal cannot be reached completely with the economizations realized by the governments. Besides, according to this principle, if the economization is to be made by a member country, then the administration should be carried out by the lowest levels (local government units closest to the public) as much as possible, as a matter of fact, according to the idea of this principle, the government can only interfere if the economization cannot be accomplished by the public (Özcan, 2001).

The term governance stands for generation and management of both official and unofficial regulations which organize the community, it is a platform in which economic and communal actors along with the state communicate with each other in order to make decisions or the way the particular outcomes are shaped by operative regulations (Hyden et al., 2004). On the other hand, the definition of Beall is more

significant: “governance can stand for various types of democratic politics; however, it can also refer to power inter-actions between the society and the administration of the state” (Beall, 2005; Harriss). Frequently, these interactions are built up on a superior paradigm in Public Administration (PA) which is mainly related with hierarchical state. This paradigm is demonstrated by bureaucracy work done by Weber (1978) and political control by Wilson (1941). T sum up, recent adjustments in administration approaches become more important at the expense of classic government, and increasing consensus on the circumstances that have had a hand in to this “complexity of collective problems, the emergence of the network society and globalization, the lack of efficiency of regulation, the rise of liberal ideologies, and increased costs of hierarchical state arrangements” (Pollitt et al., 2007).

For the last 15 years of emerge in governance literature shows that government stands point at society has transposed substantially (Jessop 1998; Van Kersbergen and Van Waarden, 2004). This change is frequently investigated as the increase in complexity societies, the growth of policy making network and the decrease in possibilities for the hierarchical management throughout public institutions. The paradigm shift from government to governance is a reflection of massive social revolution that involves contracting and outsourcing applications. The emergence of new arrangements in partnership compose of public and private collaborations and joint projects, moreover; it requires transformations from hierarchical bureaucratic systems to decentralized network structures of institutions (Tierney, 2012).

According to North (1991), institutions are restrictions that form social, financial and political communications along with their own administration features. These institutions involve not only formal restrictions; traditions, taboos, customs, sanctions, etc., but also formal restrictions; ownership rights, fundamental law and other laws. The institutional framework, in which both private and public actors are in interaction, forms the governance structure of a country in terms of policy formulation. The sustainable living only can be gained if this framework of governance accomplishes the execution of policies provide the social and economic development of a country (Ahrens, 2002). Such governance can be achieved by unity

of local authorities for disaster risk reduction, providing a platform on which local actors work together so as to enable good governance. The attributes of good governance has its own attributes and these attributes are explained in the subsequent section.

2.5.1. Attributes of Governance

An enhancing government system with which risk reduction is enhanced and supported has basic characteristics of predictability, participation, transparency and accountability. These characteristics ensure trustworthy promises which are made by civil decision-makers and musts for an effective policy. Trustworthiness makes it possible for individuals hold responsible the politicians responsible for activities they execute in order to impress the policymakers. Trustworthiness in terms of stabilization of anticipations, which is necessary for encouraging private investments, can be completed by predictability, that is explicitly put regulations and policies organize the finance along with the population and their consistency. The improvement of combination and analysis of civil policy selections and minimization of corruption can be achieved by transparency, which is delivering credible information to other components of the system on time (Ahrens, 2002; Piciotto, 1997).

2.5.1.1. Accountability

There are two directions accountability works which are electorate or beneficiaries through elections, in other words downwards, and dignitaries in the government through performance analysis. Downwards accountability is especially significant for disaster risk reduction to minimize vulnerability of people (Twigg, 2004).

Accountability is important because evaluation of effectiveness of any institution or organization assures that they act with their full potential with a responsive manner to provide public service (Stapenhurs and O'Brien, 2015)

2.5.1.2. Transparency

Transparency is necessary for policy makers to be held responsible for what they do. It is a necessary precondition for the exercise of accountability since without access to clear, accurate and dynamic information, it is impossible to judge whether the standard promised has been met.

2.5.1.3. Participation

As from the definition of governance stressed the involvement of all stakeholders in policy making process, participation is a necessity to achieve it.

2.5.1.4. Predictability

Predictability refers the existence of laws, regulations, and policies to regulate society; and their fair and consistent operations. The importance of predictability cannot be overstated since, without it, the orderly existence of citizens and institutions would be impossible. The rule of law encompasses well-defined rights and duties, as well as mechanisms for enforcing them, and settling disputes in an impartial manner.

Conceptually, the four elements of governance indicated above tend to be mutually supportive and reinforcing. First of all accountability creates trust of environment for participation and moreover, predictability and transparency assured by it. Absence of accountability creates decrease in liability. Furthermore, it is impossible to affirm open environment for information flow whether institutions does not accept to be accountable and they cannot be transparent to citizen. On the other accountability also protect institutions for creating distinct right of confidentially. Predictable legal and institution schemes helps to gain trust from both institutions and citizens but at the same time these rules, institutions and laws needs to be transparent to show equity of all. Participation enhanced and supported by the effectiveness of all three element

2.5.2. Governance in Disaster Management Framework

As there is no requirement for disaster relief actions before the disaster occurs, the need at during disaster and immediately after is "emergent". It results in establishment of new organizations or reconstruction of existing ones with the need to increase in its adaptive capacity to react or respond a significant circumstance of the phenomena that are constituted by civil initiatives, local government, professions and community. In order to consolidate the continuity and efficiency of disaster risk reduction and fulfil the present and future needs, effective governance is crucial (Adger et al., 2009). From a different point of view, reasonable governance the most important element for reduction of disaster sensitivity (Wisner et al., 2004).

On the other hand, to some people, a government framework which is insufficient for accomplishing this requirement can lead to an insufficient development progress (Clague, 1997). Ultimately, institutional inefficacy can be thought as the reason to vulnerability to natural disasters. For this reason, in order to minimize disaster risk and provide improvement activities, the institution should have the goal of enhancing the standards of governance.

Consolidated development gains and, thus, risk reduction will not be successful if the institutional framework of a country fails the execution of policies. In order to prevent this, the government infrastructure has to promote comprehensible decision making procedures, including all possible victims who shoulder the effects and create long-lasting solutions which policymakers will be responsible for. Specifically, this goal can be reached with more public involvement and administrative power decentralization, particularly, ensuring the encouragement of contribution of civil decision makers and bureaucrats. The local awareness can be constituted, for example, with the aid of these institutions, at a global level, about the works done on risk reduction and systems created for early-warning.

One should understand that the urban governance is a group of institutions and inter-relationships that lead social and economic procedures, rather than a formal structure of regional, local or national governments.

Parkinson and Boddy (2004) claims that the mixture of different complex governance structures, such as "networked modes, elected representations and the governmental institutions of local authorities", provides an environment for political participation while, on the other hand, creating a threat because of increased coordination complexity. New shapes of joint local governance can be seen as a formal (councils), semiformal (local institutions) or informal (community houses) local effort. Based on Hendriks (2006) model, Jarenko (2013) argues that the term co-government can be understood as a tool connecting formal, semiformal and informal layers of the community and creating a vigilant system. Semiformal layer of this system generally is known to create a connection between formal and informal layers and increase the extent of political activities in order to steer the decision-making process. However, not to get lost into so many classifications we will be using governance instead of co-governance, for a multi stakeholder management framework.

Facilitation of governance system requires decentralization since it changes the structure and organizations within the governance (Farrington, 2002). This is because decentralized governance has the attributes mentioned in preceding sections such as government accountability. Since democratization and improvement of disaster management efficiency can be achieved by decentralization, it has attracted the attentions in disaster risk governance (Ahrens and Rudolph, 2006). As a result of these propositions, it has gained popularity as a policy mean in global evolvement debate.

2.6. DECENTRALIZATION

Decentralization, as a political and administrative concept, stand s for the process of transfer of the authorization from upper to lower levels unlike the centralization of authority (Gözübüyük, 1991) as well as it aims to strengthen local governments, non-Governance through decentralization aspect has been established by developing countries for 35 years. 78 developed and developing central governments have been decentralizing their powers and responsibilities to local or intermediate governments.

The main idea behind it is to devote effort, to development failures and reinforce democracy. It requires relocation of certain planning, financing and management exercises to local units of central agencies (de-concentration), local levels of government (devolution), or semi-autonomous authorities ('delegation')." Inter-governmental relations and state-society relationship adjust governance system. Although de-concentration and delegation refer a re-organization of central authority, handing over political power by central government is achieved by devolution. (ODI, 2015)

2.6.1. Deconcentration

Deconcentration, which includes rearrangement of authority for decision making and responsibilities for finance and management between different layers of central government, is the most frequently used method among unitary states. It is also known as the weakest type of decentralization. It only transfers some of the responsibilities of central governments to other officials of them serving in districts, provinces or regions or it allows powerful local administration and capacity with the surveillance of central government. (IFAD, 1999)

2.6.2. Delegation

Delegation is stronger than de-concentration. By delegation, administration and decision-making responsibility of central government can be distributed among semi-autonomous institutions. In this case, the central government does not carry out supervision but these organizations are fully accountable to it. Governments first establish corporations or enterprises, private service districts, territorial development organizations, transportation administrations, housing authorities, school districts, and then transfer responsibilities to these organizations. One of the important characteristics of these organizations is having discretion while carrying out decision-making processes. The usual limitations on civil personnel may not be applied to these and they may use other resources for services. (World Bank, 2015)

2.6.3. Devolution

Devolution is another type of administrative decentralization is. In this case, the functions are transferred to quasi-autonomous agents of local governments that have corporate status. Devolution of authority regarding management, decision-making, and finance involves the municipalities electing their councils and mayors by themselves and having the authority of making decisions of investments. In such a system, the local governments have the ability of executing authority and public functions within the geographical borders recognized legally. Devolution has the most political shape of decentralization.

There is no standard model of decentralization: it varies considerably from country to country. Its impact depends greatly on the original objectives and design, as well as institutional arrangements and implementation.

Till this section of our theoretical background we discuss about disaster and how to minimize its negative effects by a management concept as governance. From then we will focus on the local level as a type of system and its characteristics.

Decentralization is a complex multi-dimensional process of governance reform, with a multitude of entry points for donors. In this paper, we use complexity theory to frame our perspective. A reason for this is that the complexity theory is about systems in general and it does not suffer from any bias towards the hierarchical state. In addition, “complexity theory holds clues as to the ways in which governance types evolve over time” (Boons and Gerrits, 2015, p. 34).

2.7. AN OVERVIEW ON TURKEY’S DECENTRALIZATION APPLICATIONS

The developments of first fifty years of Republican era before 1980 are summarized by Tekeli and Ortaylı (1978) as below:

In Republican era, even the municipalities are expected to show important services, they were never provided necessary resources.

Central governments preferred to keep the resources under their control at all times. There were some successful mayors who could put opportunities in a good use even with these limited resources. However, in 1973, the settlement system in Turkey got complicated and even the scale of city problems got larger, the municipalities lost strength in terms of powers, functions and financial opportunities compared to the municipalities in 1930s. 1973s is crisis period of Turkish municipality. As every crisis, it constitutes the core of breakthrough.

Despite all the problems, the municipalities realized important applications for 50 years period; the Turkish municipality had experiments that can be subject to serious researches. It constitutes a rich research field for city planners, the municipalities, management scientists, sociologists, geographers and historians.

The researches concentrated on this field for coming years will not only give us information about past but also shape new understanding of municipality and applications" (Tekeli and Ortaylı, 1978). In 1972, a series of draft laws related to local authorities are prepared but none of them became a law. The important developments related to local government put in effect only after 1980 (Görmez, 1997).

The government formed in January 1978 put its point of view for local authorizations by establishing Ministry of Local Government. In order to eliminate administrative and financial bottlenecks of local authorities which are developing as a new fact in our society that is in rapid change process and so as to make arrangements for bring effectiveness and interoperability to these authorities, establishment of Ministry of Local Government was considered appropriate. Examining the 1979 Budget Report, the goals of the Ministry are "regulation of economic life under the guidance of municipalities, production of equipment by the municipalities nationwide, meeting the needs for equipment by a facility in case the capacity of municipalities is not enough, financing production of buses and rail transport for public transport, and housing projects under the guidance of municipalities" (Keleş, 2000, p.420). During

22 months during which Ministry of Local Government provided services, it tried to lessen surveillance and control of the state over local governments (Keleş, 2000).

Another subject that draws attention is that the Ministry took considerable steps for establishment of municipal unions and comprehensive municipal unions (Marmara and the Bosporus Municipalities Association, Black Sea Municipalities Association, Aegean Municipalities Association, Central Anatolia Municipalities Association) even their number is not large.

After 1980

The most important development of this era is establishment of Metropolitan Municipalities in 1984 with the Law No. 3030. With this law, metropolitan government is provided and efficiency and local democracy in services are aimed (Eke, 1985). However, taking that the General Secretary is appointed with the approval of the Minister of Interior and the rate of appointed in Committee into consideration, it is hard to say that their autonomy is full provided. In 1981 and the following years, the laws put in effect related to municipalities' incomes such as Law No. 2380 concerning providing a share to special provincial administrations and municipalities from state tax and municipal revenue Law No. 2464 are important (Tortop, 1996; Nadaroğlu, 1989).

Implementation of metropolitan municipalities is important in terms of democratization and decentralization. Other important steps are engagement of development directorates which are used to work under the supervision of central administration to these municipalities, establishment of Infrastructure Coordination Center (AYKOME) and Transportation Coordination Center (UKOME) consisting of the representatives of related state institutions and organizations under the presidency of metropolitan mayors and formation of Infrastructure Investment Fund.

However, democratization-decentralization could not achieve in metropolitan district municipalities. For instance, these district municipalities were subject to two different guardianship controls. Metropolitan mayor has the authority of taking measures for providing the efficiency of services carried out by district

municipalities. Besides, Metropolitan city council is the authority to be appealed in case there is a controversy between district municipalities and metropolitan municipality.

This is a clear evident that centralist approach still exists. Lastly in 2004-2005, Municipal Law, Metropolitan Municipality Law and Special Provincial Administration Law are put into effect.

Legal personality of special provincial administrations is terminated in cities having metropolitan municipalities in 2014. Thus, metropolitan municipalities become important and the most executive implementer of local politics within the scope of local administrations. As a matter of fact, the duties related to local administrations in The Ministry of Interior which has a large organizational structure are executed by only General Directorate of Local Authorities. Hence, considering the changes in the system and the requirements of local administrations, it can be seen that The Ministry of Interior was not able to keep up with this change

2.8. LOCALIZATION AS A SYSTEM

"Communities can be viewed as complex, adaptive and self-organizing systems" (Alech, 2005). Community systems show continuous activity and change. Their boundaries are in interaction with political, economic and social environments around it. One criterion for survival of a community system is the compatibility of each part which constitutes the system with each other and other criteria is adoption to changes that occurs at its environment. Viability of a system depends on ability of coping with changes within and of its environment. These changes may be caused by arbitrary, deliberate or routine events. If the community cannot cope with these changes, it will not survive. Continues active homeostasis is the key for viability. Communities show difference in terms of development or retrogress. The terms development and retrogress should not be confused with growth and shrinkage. Development means to increase the transmutation in order to advance resiliency and durability against environment. A great majority of communities have the competency to cope with small changes, however, most of the fail to adopt a major

change without suffering. These changes may occur in several shapes: natural disasters, deliberate or involuntary destruction actions, major industrial accidents, damage to or loss of a major part of the system such as closure or transfer of a major employer, loss of community welfare at a large extent, and like.

Local government may have influence on community system but cannot control it completely. Individual choices, which are made simultaneously by a majority of population and institutions constituting the community system, determine whether the system preserves its existence and viability. Different events will be responded by actors of the community system, which consists of each of individuals of the community. However, these responses will not be the same for all individuals.
After an event occurs, first, they will choose to leave or stay in the system, then, if they stay in the system, they will make choices of what to do. These choices will be affected by individuals' roles, positions and relationships with others. In addition, governmental and nongovernmental powers will have influence on these choices. The decisions made by governmental or non-governmental leaders will shape others decisions. This process also will be affected by the perception of random events. For instance, a major enterprise may move location of production facility in order to lower labor costs to a less-developed country or another product may have been developed, which can substitute a primary product. As a result, communities may suffer from these economic movements while facing with other natural hazards. As the number of events with which community is forced to change increases, maintaining viability gets harder.

Planned activities such as prevention, preparedness, response and recovery form stakeholders' disaster approach (Peek and Mileti, 2002; Altay and Green, 2006; Moe and Pathranarakul, 2006). Reactive and proactive intention of stakeholders on managing disasters is represented with these activities. Socio-economic and environmental effects of disasters have been studied to a considerably large extent (Alexander, 1997; Bosher, 2008; Hunt and Watkiss, 2010). Nevertheless, further development is required for awareness of stakeholders before, during and after disasters (Perry and Lindel, 1978; Pearce, 2003; Bosher et al., 2007). Systematic

theorizing of stakeholders' approach management needs more attention. In addition, many researches discuss disaster management with same theories (McEntire, 2004; Sementelli, 2007). Chaos or crisis theory, for example, has been increasingly used by researchers as underlying theories (Pauchant and Douville, 1993; Pearson and Mitroff, 1993; Shrivastava, 1993; Pearson and Clair, 1998; Ritchie, 2004). Since disaster is multi-level and -sectorial phenomena, it would be more useful to integrate different theories while dealing with various concepts.

Thomas Kuhn (1962), in the book of "Structure of Scientific Revolutions", mentioned about paradigm shift in science as the time passed prevailing scientific theories that lose predictive value as anomalies are identified for which theories have no explanation. After that, those researchers began to search for substitutes and better explanations for the hitherto unexplainable phenomena developed, thus ushering in a new paradigm. Paradigm shift has begun at the 1980s. After that the previous perspective of the deterministic universe which is mechanistic and linear undergoes the challenge. In 1984, the concept of complexity first began to work on in Santa Fe which was constituted by physicians, biologists, and chemists. The aim was to produce new ideas about complex systems by bringing different professionals together. The Institute targeted researchers from physical science, and their collaboration shifted the intellectual model from the idea of a universe governed by deterministic laws of linear cause and effect to a universe where multiple components (called agents) interact and connect in unplanned and unpredictable ways.

Garnett (1992) stated that focus on hierarchy; linear plans and processes developed in advance usually fail to implement effective government strategies and policies. Linear policies which based on Newtonian philosophy argues that if we know initial conditions, we can calculate all steps one by one likewise previous ones (Prigogibe,1997). However, it is not logical to design disaster policies by linearity since disasters are mostly unpredictable and causes uncertainty, rapid change, and extraordinary conditions. Linearly designed policies and plans do not consider a dynamic environment of organizations and conditions (Çorbacıoğlu, 2006). The

current problem between planning and implementation is the lack of application of non-linear methods in problem-solving for disaster response (Millet, 1999; Rosenthal, Boin and Comfort, 2001). This condition caused to introduce a new era which change conditions from traditional rule-based and uncompromising organizational structure to flexible and adaptive systems (Comfort, 1999; Kauffman, 1995).

Both complexity theory and complex adaptive system have a valuable contribution to research in multi-level characteristics, non-linearity, path related, positive feedbacks and multi-directional causations operations which are the focal point of co-evolutionary research.(Lewin and Voldberda, 1999).

Additionally, complexity research provides an excellent framework for understanding adaptive ordering in dynamic environments, one of the central issues in co-evolutionary research (Lewin and Voldberda, 1999; Lewin et al., 1999). Paraskevas (2006) used complexity theory to introduce a complexity-informed framework for the design of an effective organizational crisis response system in disastrous situations.

Complexity theory begins with understanding some parts of life in which the actions do not occur in a linear manner (Galaz, 2008). As there are different perspectives about complexity theory, there is no formal definition of it. The commonality of the definitions can be degraded into inter-connectivity, inter-action and inter-relationship of agents within a system and between a system and its environment results in complexity. Agents are all the components of that system in the system (Fryer, retrieved 2015).

As it is a new approach to many of the concept in social science, the descriptions of adaptive capacity are lounging from policy making studies to resource management and climate change framework for now. (Brooks, 2003). The concepts used in disaster management like vulnerability, resilience and in development policy lie institutional redundancy and robustness have similar indirect meanings in

contemporary literature (Anderies et. al., 2004; Gunderson and Holling, 2002; Low et al., 2002; Turner et al., 2003). Scholars who are working on governance have recently worked on theoretical relation between complexity and governance.

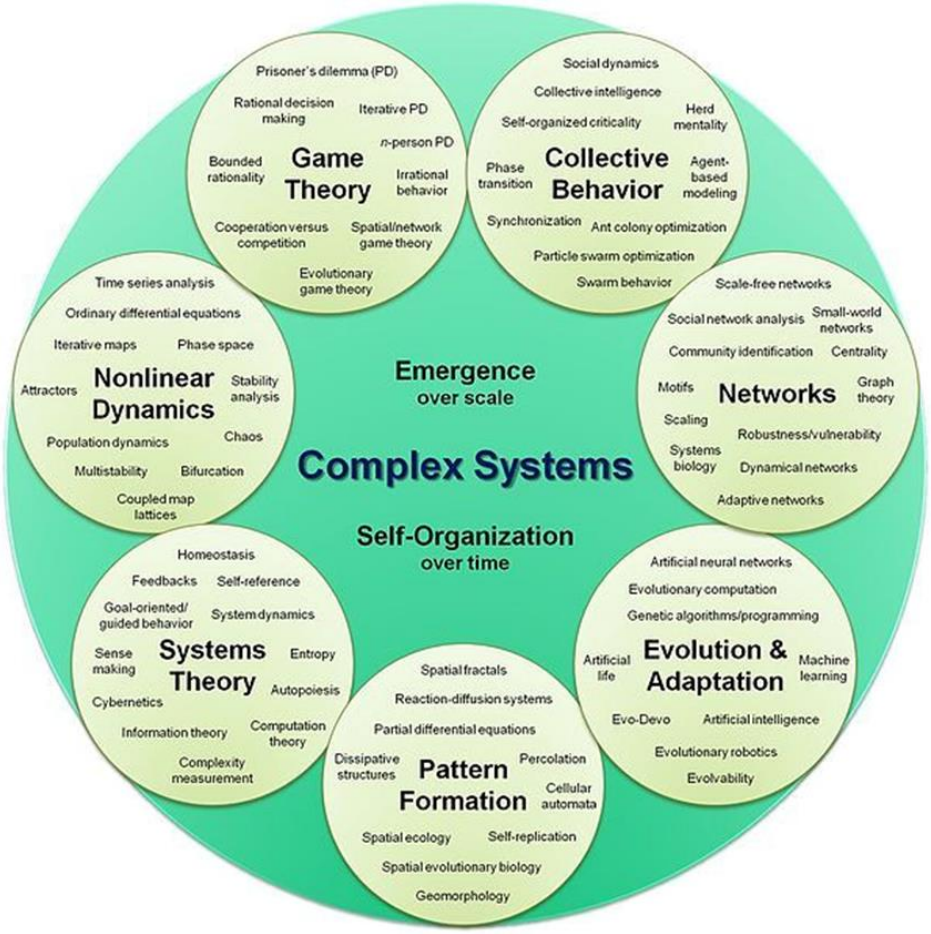

Figure 5. Concept map of Complex Systems
(University of Alaska Anchorage, 2014)

To better understand complexity theory, characteristics of complex systems should be examined in detail.

2.8.1. Characteristics of Complex Adaptive Systems (CAS)

Complex adaptive system's main characteristics are distinguished from other theories like system, network theory, and chaos theory. Systems theory is in many ways the mother of complexity theory, before there was complexity theory, systems theory

was dealing with the ideas of complexity, self-organization and adaptation. As I mentioned before complex systems are composed of agents. Individual agents construct their behavior by information gathered in their local environment. Agents make decision parallel processing which mean simultaneously called as autonomous agents. All the decisions made by agents influence each other's decision-making and also actions but it is not in a uniform manner CAS has distributed control, connectivity between agents in system and systems with environment, co-evolution caused by inter-actions (connectivity), sensitive dependence on initial conditions, emergent order, far from equilibrium, state of paradox. Agents share a common "rule" which determines how they act what to do next. Their common rules creates coherence and connect all agents without a need of any central control. The point is that interconnected system contains poorly understood interactions driven by both

The principles employed by agents evolve based on their successfulness in the changing environment. The connection between agents in "edge of chaos" has sufficient stability to preserve itself, in other words, it is not so inter-connected that system will not overreact and also not so disconnected that it breaks down into chaos. When there is a change in environment, systems and also agents response that change instantaneously, run possible reactions/ response which is called profuse experimentation and rapidly put solution to use.

CAS is special situation of complex systems and can be seen as extension of system theory (Hartvigsen, et al., 1998). When we compare system theory and complex adaptive system, we conclude that CAS is an evolutionary theory rather than revolutionary. There are two main differences between theories. First one is that system theory, which assumes that a single system equilibrium is accomplished by linear effects and feedback loops between key system variables, however; CAS does not have any priori assumptions about key variables, there is temporary, moving and multiple equilibrium between and within systems which has nonlinear reasoning. To extend, for example, cascading effect; a small exogenous event may trigger a change in the fundamental character of a system which also known as butterfly effect is also a support for non-linearity in complex adaptive systems (Kauffman, 1993; Sterman, 2000). Second one is General System theory which highlights open systems, whereas

CAS argues that not all systems are open but some systems are fixed point or some has cycle equilibrium so focus should be on complex systems however; it also does not assume that all systems are complex and adaptive (Schneider and Somers, 2006).

Complex systems have both same and different characteristics with open systems. Although energy importation, throughput, output properties are common in open and complex adaptive systems, cyclicality, preservation of the character and final state of the system has differences. CAS is most adaptive when the system is closed to chaos and it focuses on adaptation and evolution, however; open systems are cyclical and focuses on maintenance and homeostasis. The properties of information-feedback, differentiation, integration-coordination has both similarities and differences. CAS concentrates on emergence with system components to facilitate order from bottom up inter-action. Order emerge from unplanned inter-action can be introduced as autocatalysis inter-action which begins at local level (Katz and Kahn, 1978). Moreover, complex systems are also different from chaotic systems with being more stable and predictable and less mechanical.

2.8.2. Self-organization in Complex Adaptive Systems

Ability to self-organize is one of the central characteristic of complex adaptive system. The Adam Smiths' metaphor of the invisible hand can be seen as a good example for establishing coordination structures spontaneously, namely, self-organizations. In his metaphor, actors interact each other mutually without a need of external authority. As a result, these actors establish pre-condition of self-organizing by making cooperation. Occurrence of self-organization needs a triggering reason or conditions. On the other hand, mimicry and professionalization as an example of pioneering reasons of self-organizing structures in social science. (DiMaggio and Powell 1983; Hedström and Swedberg 1998).

When agents are acting on locally available information about the behavior of others nearby agents, self-organization develops. In the theory of self-organization, macro-level phenomena produced by lower-level units can assume control. It introduces "spontaneous emerge of order" in social and physical systems (Prigogine and

Strengers, 1984; Busev, 1994). The theoretical concept of self-organization underlies the design of a decision support system to backing coordinated action in community response to disaster. More recently, scholars have recognized the potential role of complexity research in explaining co-evolutionary properties and processes (Baum, 1999; Lewin, Long and Carroll, 1999; McKelvey, 1999). A spontaneous re-allocation of energy or action to reach a mutual goal in a dynamic, uncertain environment can be interpreted as self-organization. (Kauffman, 1993; Comfort, 1994).

This capacity to adapt to changes in the environment is observed in both social systems, when organizations adapt their performance to meet unexpected needs, and technical systems, where computers adjust the performance of systems operating in changing environments. On the other hand, in public administration literature, self-organization often refers to the adaption of behavior of non-governmental actors, and emerges of collective action without pressure from the government." (Fenger and Bekkers, 2007). New governance framework has constituted and maintained from this kind of impulsive localized inter-actions that has not got any dominant imposer (Van Meerkek et al.2012). Behavior of the system is influenced by multi complex and nonlinear inter-actions by various local agents who gestated from a co-evolving and emergent pattern (Cilliers, 1998; Goldstein, 1999; Heylighen, 2001).

There is a substantial amount of theories used for theorizing disasters in the literature. Administrative and leadership theories have been fundamental pillars for building Stakeholders' approaches to DRR organizational capabilities through crisis management activities (Boin and Hart, 2003; Wooten and James, 2008). Moreover, disaster studies need to be expanded to incorporate a political administrative perspective on crises management (Rosenthal and Kouzmin, 1997).

Agents, in our thesis as actors or stakeholders, whether they are individuals or groups, choose how to cope with disasters in their natural, society and the built environment (Peek and Mileti, 2002). This notion used decision-making theories to justify that stakeholders behave acceptably, but not often optimally, based on their

limited knowledge and within constraints set by the social system in which they live (Simon, 1991).

Although there are two approaches to tackling disasters – proactive and reactive approaches – most studies have claimed that stakeholders often resolve the predicaments arisen in disasters by reactive approaches (Loosemore and Hughes, 1998; Brilly and Polic, 2005; Bosher et al., 2009). Moe and Pathranarakul (2006) argue about a proactive approach for the activities, i.e. mitigation and preparedness which are planned and executed by actors before disasters for reduction of negative effects of disasters. The term mitigation stands for activities for elimination and reduction the possibility and effects of disasters before it occurs. The main goal of mitigation activities is to keep threats away from public and construct resilient infrastructures and functional management measures. Preparation activities contain development of emergency procedures organizational stakeholder capacity in order to secure effective response to effect of disasters. Development of early warning systems, identification of shelters and evacuation routes, preparation of emergency communication systems and supplies, and education of emergency personnel, citizens and authorities are components of these activities (Peek and Mileti, 2002; Altay and Green, 2006; Moe and Pathranarakul, 2006). It is also argued that reduction of material and nonmaterial loss will be provided by a high-level proactive approach.

Self-organizations are facilitated by various conditions which can be listed as below;

- Needs a triggering event or focusing event (Cobb and Elder 1972; Birkl and, 1998);
- Existence or improvement of trust based relationships;
- Need of exchange and interplay of ideas, information and experiences and the focus that is needed to exchange them;
- Geography of the self-organization process, which is the physical and virtual location of the interaction;
- Importance of boundary spanning activities of key individuals to make connections which requires forms of linking leadership that facilitates and

protects the free flows of ideas, people and resources (Van Meerkek et al, 2012; Bekkers et al, 2011);

- Mutual adaptation of actor function.

As looking by the characteristics, the formation of organization of natural and physical systems is the reflection of self-organization (Kauffman 1993). Emergence of community networks right after a natural or technical disaster can be a good example for this process (Drabek 1981; Comfort 1990). Knowing the immediate needs of the community which has faced a severe disaster, individuals try to recover what their own community lost voluntarily.

On the other hand, De wolf and Holvoet (2004) claims that the plus value of being able to self-organize applied to governance progress is that it undertook "a dynamical and adaptive process where systems acquire and maintain structure themselves, without external control". Boons and Gerrits (2008) argue that focal feature of governance processes are formed by self-organization. All of the actors have a responsibility of guidance and control of these processes. Although government actions seem to be apart from self-organization, these actions play part in self-organization as an extension of its dimensions.

Governance involves the coordination of activities within a society concerning its collective problems. Such governance can be the result of self-organization, or be the result of external control. External control involves some form of rule setting, monitoring, and sanctioning which is exercised by a system outside the system that is being controlled. This leads to the distinction of two systems: the societal system, and the external control system. The external control system can emerge in two ways. First, actors in society can self-organize into structures which include monitoring and sanctioning. These activities can develop into distinct systems, resulting in an external control system. The other possibility is that actors have coercive means which enable them to establish control over a society. Thus, an existing system of external control can extend its sphere of influence.

Japan, which has experienced a large number of natural disasters throughout its history, is one of the great examples of self-organization. The progression of NGOs can be best seen by analyzing the period between the 1995 Kobe earthquake with a 7.3 magnitude, affecting 10 cities and towns in the Hyogo Prefecture and 2011 Tohoku earthquake which is six times larger than the first one with a magnitude of 9 (Leng, 2015). After Kobe earthquake, 1.3 million citizens and a number of NGOs went to disaster area. However, they were unorganized and separated. Following the earthquake which resulted in 6500 deaths and over 75,000 buildings destroyed or damaged, the government realized the importance of "self-sufficient" model which develops the interaction between the government, NGOs and citizens (Leng, 2015). After the earthquake,

- the number of NGOs has increased;
- the government provide NGOs be legally registered; and
- With the help of technological advancements, NGOs reach out more people through social media and internet to give information, carry out funding and coordinate volunteers.

The 2011 Tohoku earthquake resulted with 15,844 deaths, 3400 missing and more than 340,000 buildings destroyed or damaged. Considering and comparing the magnitudes and severity of these two earthquakes, it can be said that Japan learned a lesson from Kobe earthquake and it greatly affected the consequences of Tohoku earthquake (see Table 2). Although the area affected in Tohoku earthquake is almost six times larger than Kobe earthquake, for instance, the response and recovery actions are completed in weeks in Tohoku where it took half a year to complete similar processes in Kobe earthquake, e.g. reconnection of utilities (gas, electricity, water) took 6 months in 1995 where it took 1 week in 2011, and 134,000 houses were built for disaster victims in 4 years in 1995 where, starting 8 days after the earthquake, 100,000 houses were built in 4 weeks in 2011 (see Appendix IV, Table 7). The main difference in these two disasters is due to the Kobe and Tohoku post-disaster response from the Japanese government, NGOs, and volunteers (see Appendix IV, Table 8). (Leng, 2015)

Table 2. Disaster Statistics for the 1995 Kobe and 2011 Tohoku Earthquakes

Earthquake	1995 Kobe	2011 Tohoku
Areas affected	Hyogo Prefecture 1700 km ^{2} (10 cities/towns)	Miyagi, Iwate, Fukushima, Ibaraki, Chiba 9800 km ^{2} (37 cities/towns)
Population of affected areas		
Earthquake Magnitude		
Casualties: Dead/Missing/Injured	6,434 / 3 / 43,792	15,879 / 2,698 / > 27,000
Number Homeless (in temporary shelters)	320,000 (236,899)	470,000 (337, 300)
Buildings damaged	200,000	400,436
Estimated Cost of Damages	$130 billion (2% of GDP)	$210-300 billion (3.4% of GDP)
	$30 billion	$203 billion yen (10 year plan)
Transport & Communication Situation	- 130 km rail closed - 27 roads damaged - 27 highway bridges - 285,000 phone lines not working	- 344 km rail closed - 3,559 roads - 77 highway bridges damaged - 1.9 million fixed lines; 29,000 mobile stations closed

2.8.3. Complexity and Governance

Koomain (2003) argues that the complexity, dynamic and diversity in the societies, which are results of scientific, technological and social developments, create a need of new governance concepts. Moreover, Pierre and Peters (2005) develop five governance models to cope with change and uncertainties. These governance models are constituted through how they persuade and react to information came from society (feedback) and how well they respond (adaptation), namely; state-dominated, governance without government, self-governance, co-governance and hierarchical governance.

On the other hand, Duit and Galaz (2008) claim that not only that shift is depleted between governance systems on different scales but also that how different governance systems respond to complex adaptive change in time. They stated that "Adaptive capacity of a governance system is developed through making a conceptual distinction between "exploitation" and "exploration". Exploitation means the capacity to profit from existing structure of collective action and exploration defines as the capacity of governance feed through learning and experimenting (March, 1991; March and Olsen, 2006). Adaptive capacity of governance is

determined by exploitation and exploration balance. They established four governance types according to horizontal and vertical relationships of exploitation and exploration.

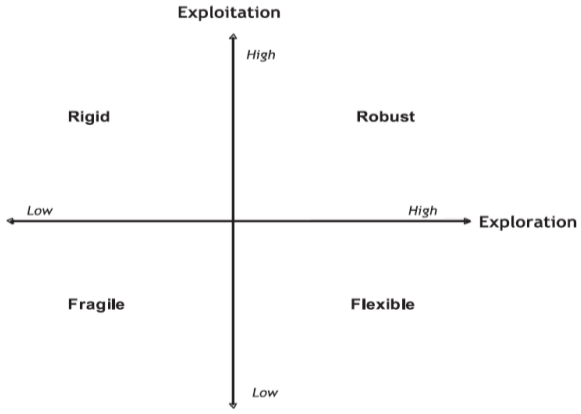

Figure 6. Adaptive capacity of four governance types
Source:Duit & Galaz, 2008

Rigid Governance: In order to be ideally powerful for Steady-State Governance, a community should combine both low-level exploration and high level exploitation. The stability can be made optimum while minimizing flexibility when faced with changing conditions. France, Turkey, Singapore and Japan are liberal-democratic examples.

Robust Governance: This type of governance combines high levels of both exploration and exploitation. This combination gives the capacity of coping with sudden changes, steady-state governance, and long-lasting transformation processes. This can be the optimum state if the operation of exploration is not inhibited by the institutions whose actions can induce rigidity. Although there is no perfect example for this type of governance in real-world, it is believed that the robust governance is the only type which can handle all kinds of complex processes. The air-traffic control system of mediaeval communities of Japan can be given as an example.

Fragile Governance: This type of governance combines weak levels of exploitation and exploration. The fragile governance type causes problems in capital and knowledge accumulation because of high levels of transaction costs, also blocking

the adaption capacity for changes. One example for this type of governance is Nigeria, which could not handle the avian influenza virus spreader rapidly in 2006 (Enserink, 2006).

Flexible Governance: This type of governance has high levels of exploration. However, it cannot convert the results of exploration into components of exploitation. This will be resulted with an incremental and random adaptation. However, it can be successful in adaptation in the long run. This system is similar to "Governance without Government" and Dutch governance" models offered by Pierre and Peters (2005) can be assumed as the equivalent governance for market-based or evolutionary selection processes. In order to maximize the utility of each individual, multiple actors carry out the exploration through uncontrolled regulations.

As Turkeys' centralist structure over society and economy and supremacy of the center over the fringe inherited from Ottoman Empire, it is rigid form of governance fed by using old capacities and afraid of changes in political and social perspectives (Kılıçbay, 1995; Tural, 2009).

According to Narlı, Turkey fear of government system which will decrease the dominance of the central government because it thinks that all central power will be centralized, local government will gain power, nationhood spirit will be lost and unitary form will be lost. However, the most effective governance is the robust type which supports decentralization and flexible to new changes and has strong inter-connections, inter-relations and inter-reactions across all stakeholders.

2.9. REMARKS

In this chapter, a detail understanding of risk and disaster management is given by comprehensive literature review. Milestone events and their inferences within the period have started from the establishment of ISDR which steer the disaster management for the last 2 years till Sendai Framework in 2015. In addition, some of these inferences are mentioned in terms of their influence on Turkey. Complexity theory used for explaining the disasters which are non-linear and can create domino effect, and their reflection in governance are referred. Their interrelations are also

explained in order to clarify the influences of them on each other. As a result, it is expressed that the disasters are similar to complex systems due to their unpredictable and non-linear structures. It is concluded that complex adaptive systems can be integrated in governance since they have a suitable structure for self-organization. In the next chapter, disaster management system of Turkey will be explained. While doing this, the compatibility of the current system to abovementioned definitions will also be examined.

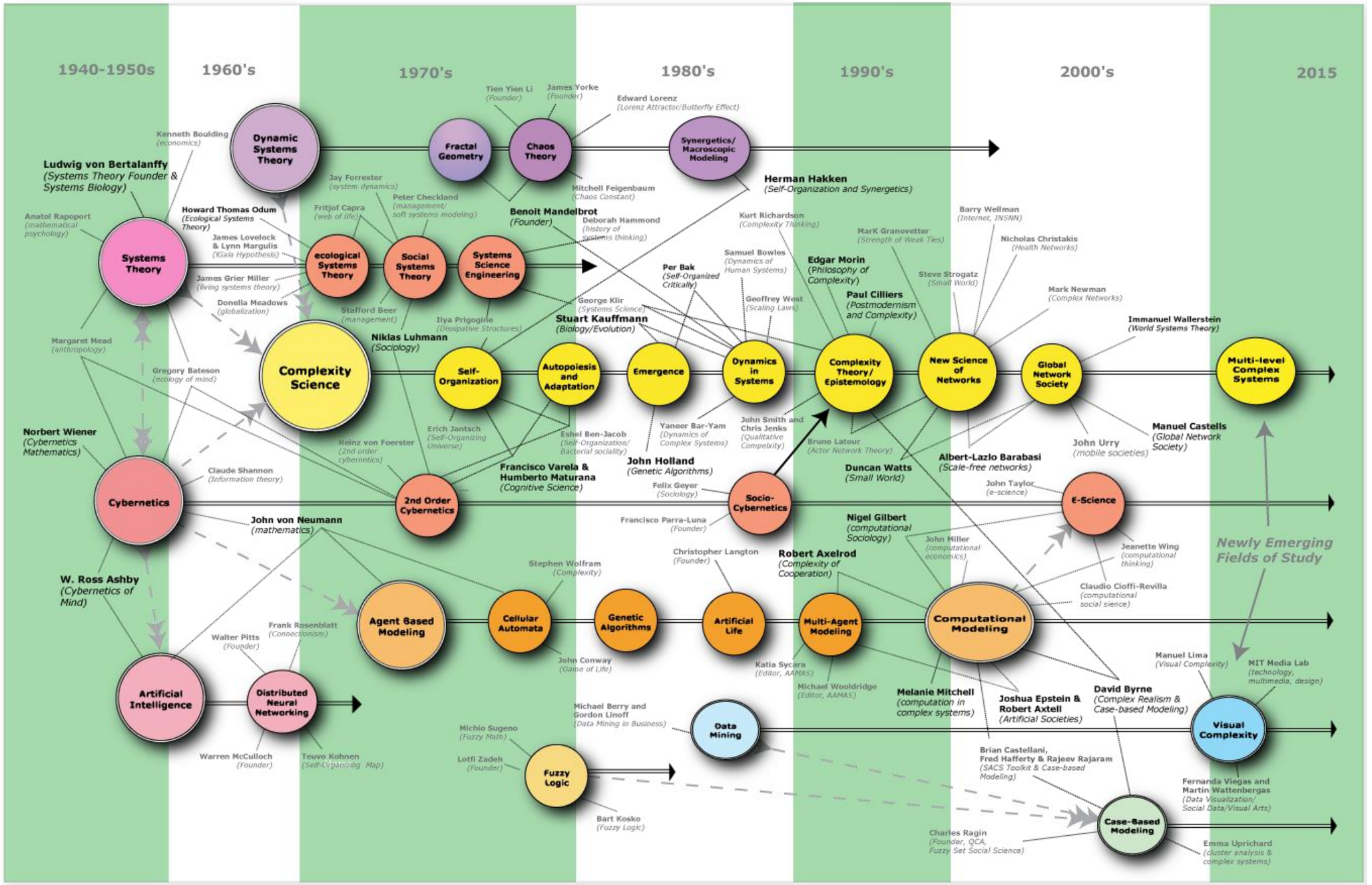

Figure 7. Complex system theory time-line

Source: www.complexitylab.org

CHAPTER 3

DISASTER MANAGEMENT SYSTEM IN TURKEY

3.1. INTRODUCTION

In this chapter, the disaster and regulation history of Turkey will be analyzed. In the first part, the disasters Turkey faced with and their consequences will be exhibited with tables and figures. The disasters occurred in Turkey will be analyzed by their types and numbers and maps are used for better assessing these disasters. The legal and institutional regulations then will be explained by periods. At the end of the chapter, disaster management of Turkey will be examined in terms of local actors following the criticism of regulations.

3.2. DISASTER BACKGROUND OF TURKEY

Looking at the disasters in Turkey beginning from the early 40s, although the number man-made disasters is almost half of natural disasters' in number (number of man-made disasters=6268, natural disasters=13394), effects of natural disasters are much larger (see Table 3). Earthquake is the major topic in Turkey recently and the reason for this is that most of total losses are due to earthquakes. This rate naturally draws every individual's attention in Turkey to earthquakes, from citizens to the government. To better visualize the rates of disasters occurred in Turkey by their numbers, the total number of affected and total damage, please see Figures 8-10.

Table 3. Number of disasters by disaster type and subgroup and their effects

Disaster type	Disaster Subgroup	Occurrence	Total Deaths	Affected	Injured	Homeless	Total Affected	Total damage (x1000 US$)
Epidemic	Biological	8	613	204855	0	0	205468	0
Wildfire	Climatological	2815	794	500	794	650	2738	0
Earthquake	Geophysical	2687	77918	5631261	89606	1195455	6994240	24665400
Mass movement (dry)	Geophysical	1	261	1000	69	0	1330	0
Flood	Hydrological	1128	965	1681270	1687	97036	1780958	2195500
Land slide	Hydrological	1688	1076	10911	89	2385	14461	26
Extreme temperature	Meteorological	1813	2226	8000	424	0	10650	1
Drought	Hydrological	695	2031	0	0	0	2031	0
Storm	Meteorological	2559	2488	13500	530	0	16518	42037
Total (Natural Disasters)		**13394**	**88372**	**7551297**	**93199**	**1295526**	**9028394**	**26902964**
Terrorist attack		2987	7693	0	9103	0	16796	0
Industrial accident	Technological	26	1239	176	1071	3	2489	0
Miscellaneous accident	Technological	1454	3013	0	1227	0	4240	178
Transport accident	Technological	1801	1556	63	5584	0	7203	0
Total (Man-made disasters)		**6268**	**13501**	**239**	**16985**	**3**	**30728**	**178**
Total		**19662**	**101873**	**7551536**	**110184**	**1295529**	**9059122**	**26903142**

(AFAD, 2015)

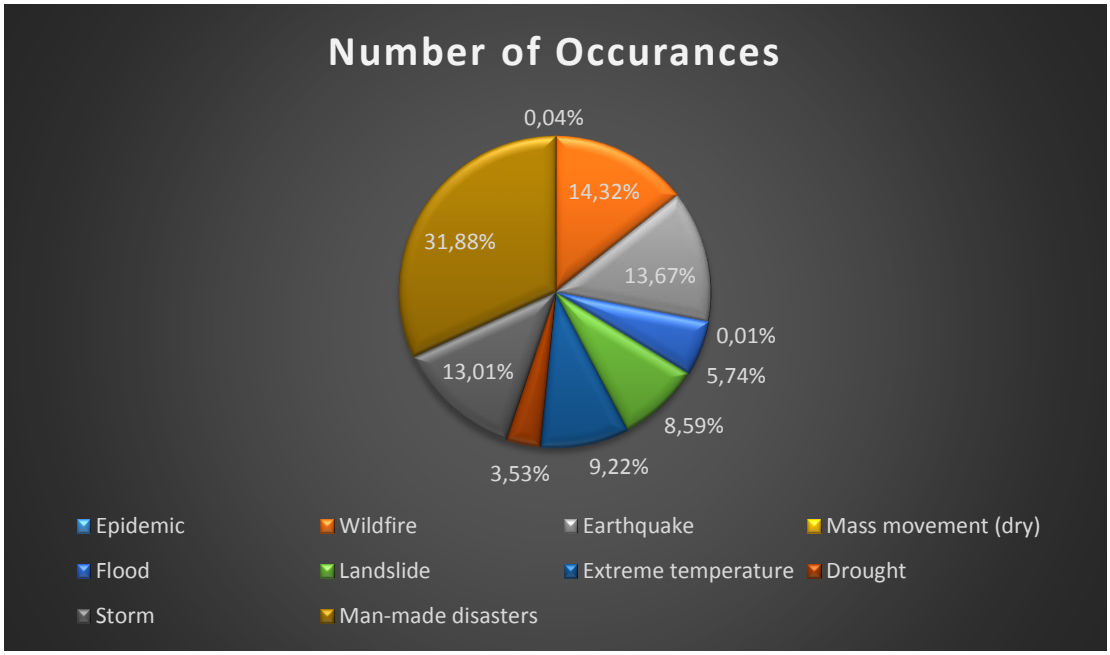

Figure 8. Rate of disasters by their rate to total number of disasters
(AFAD, 2015)

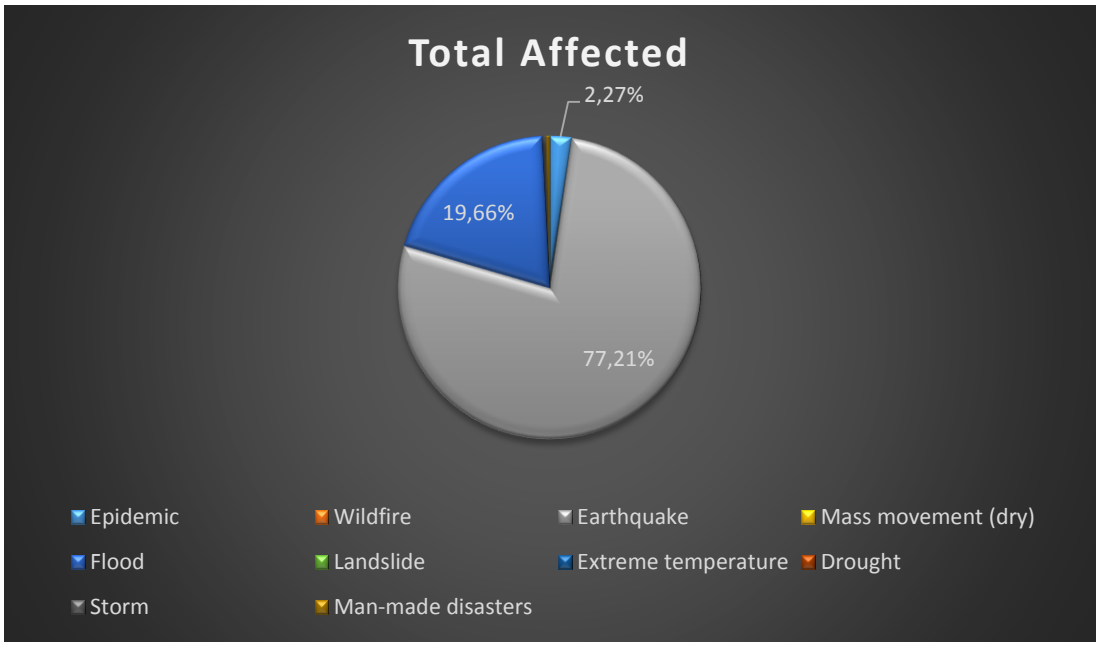

Figure 9. Rate of disasters by the total number of affected
(AFAD, 2015)

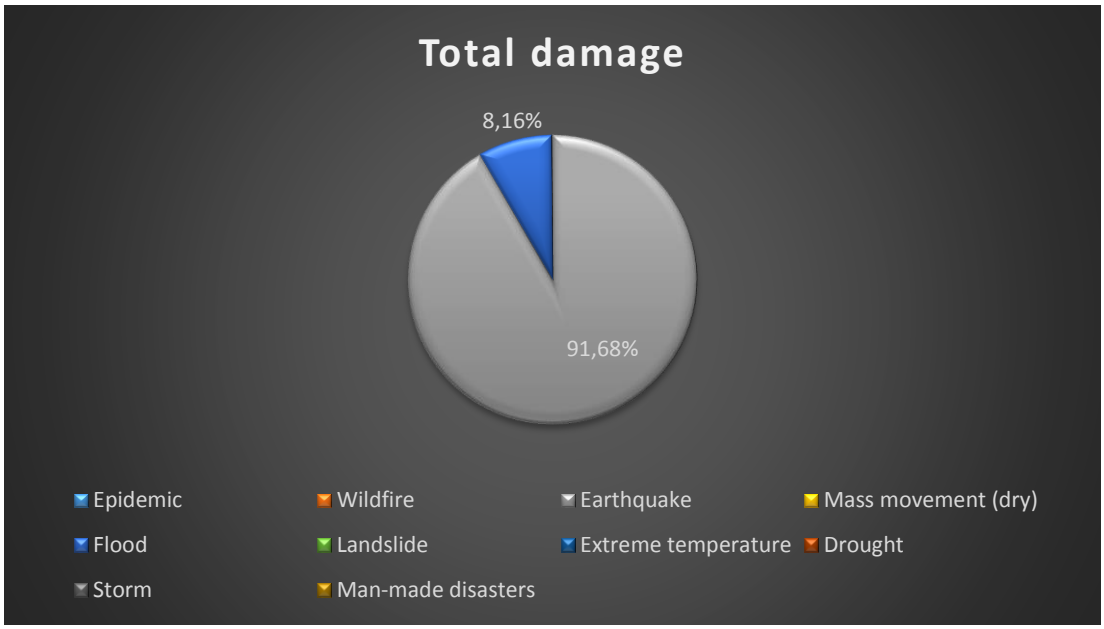

Figure 10. Rate of disasters by the total damage
(AFAD, 2015)

Although, in general, earthquakes seems to have the largest effects, individual disasters have different scheme when sorted by different outcomes. Figure 11-13

gives top ten disasters by number of people affected, total damage and number of deaths, respectively. In addition, Table 3 shows the general distribution of disasters occurred in Turkey between 1944 and 2015.

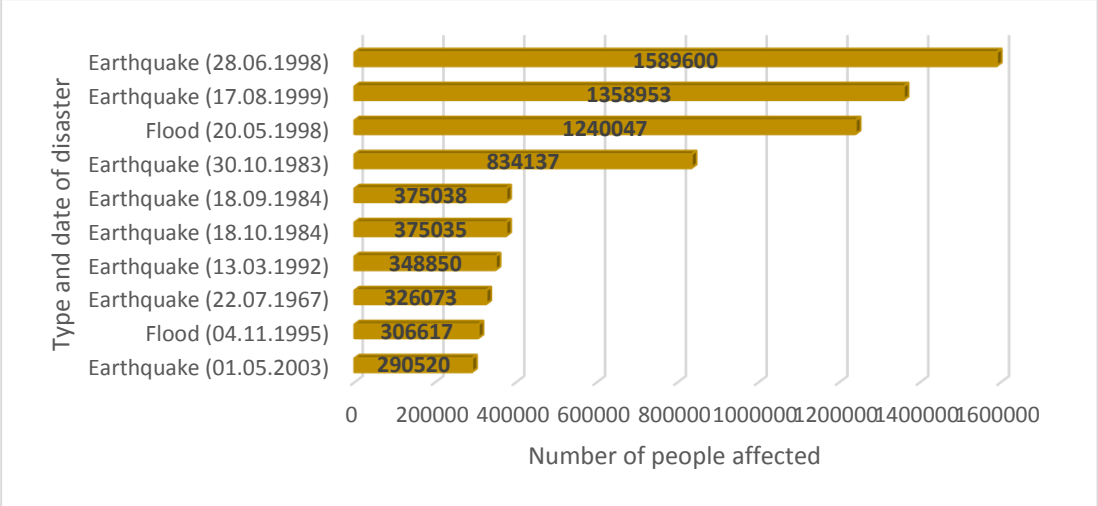

Figure 11. Top ten disasters occurred in Turkey by number of people affected
(www.emdat.be, 2015)

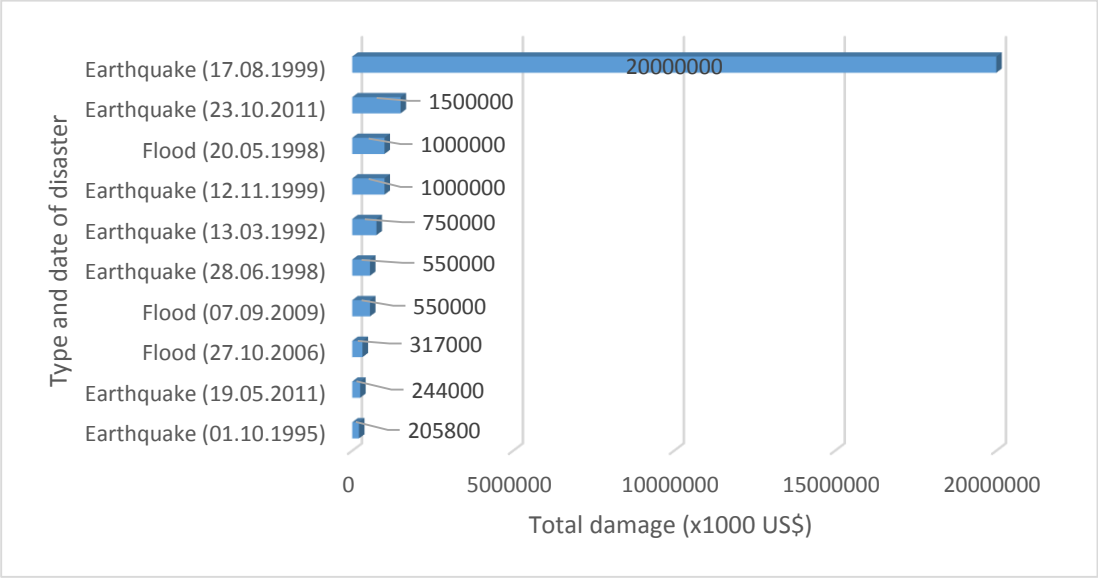

Figure 12. Top ten disasters occurred in Turkey by total damage
(www.emdat.be, 2015)

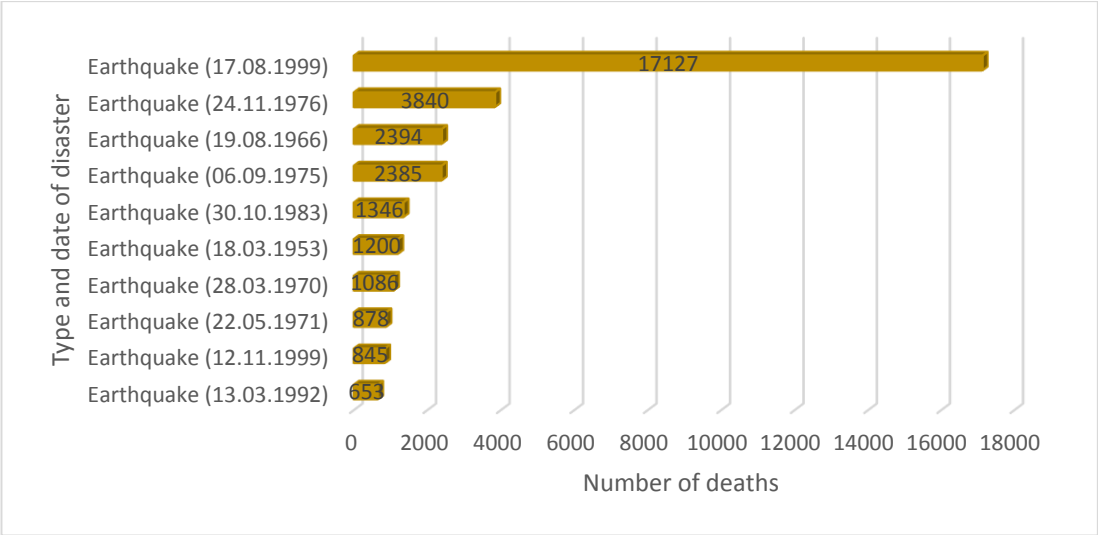

Figure 13. Top ten disasters occurred in Turkey by number of deaths
(www.emdat.be, 2015)

Trying to limit the effects of disasters to tables is actually not appropriate. Above tables shows only the short terms effects of disasters. In the long run, their tangible and intangible effects continue. Their effects, contrary to general belief that they are negative, maybe positive or negative. For instance, the natural resources of a region, such as topsoil and green-field, or natural tourism assets may be harmed due to natural disasters such as floods and hurricanes. On the other hand, sediments on the floodplain after a flood may increase the productivity of soil. Another example can be the human capital. Damaged capital or interruption of education decreases the amount and quality of qualified workforce. However, destruction of capital leads to development of new technologies and capital and infrastructure having this new advanced technology increases the productivity of workforce (Gül, 2014).

3.2.1. Earthquakes

Since the great portion of losses is due to earthquakes, the agenda of Turkey related to disaster is also generally about earthquakes. As well as increasing amount of preparation related works, the data regarding disaster risks is being analyzed more often and updated frequently. Figure 15 shows the latest official fault map of Turkey currently used. It is published by General Directorate of Mineral Research and Exploration in 2012.

Figure 16 show the dispersion of the earthquakes occurred between 1900 and 2013. In this map, the event should cause at least 10 people died or 50 people injured or 100 people affected or general life affected, or the disaster should have a historical value in order to be counted as a disaster. As can be seen from the figure, the earthquakes, in general, concentrate on the fault lines.

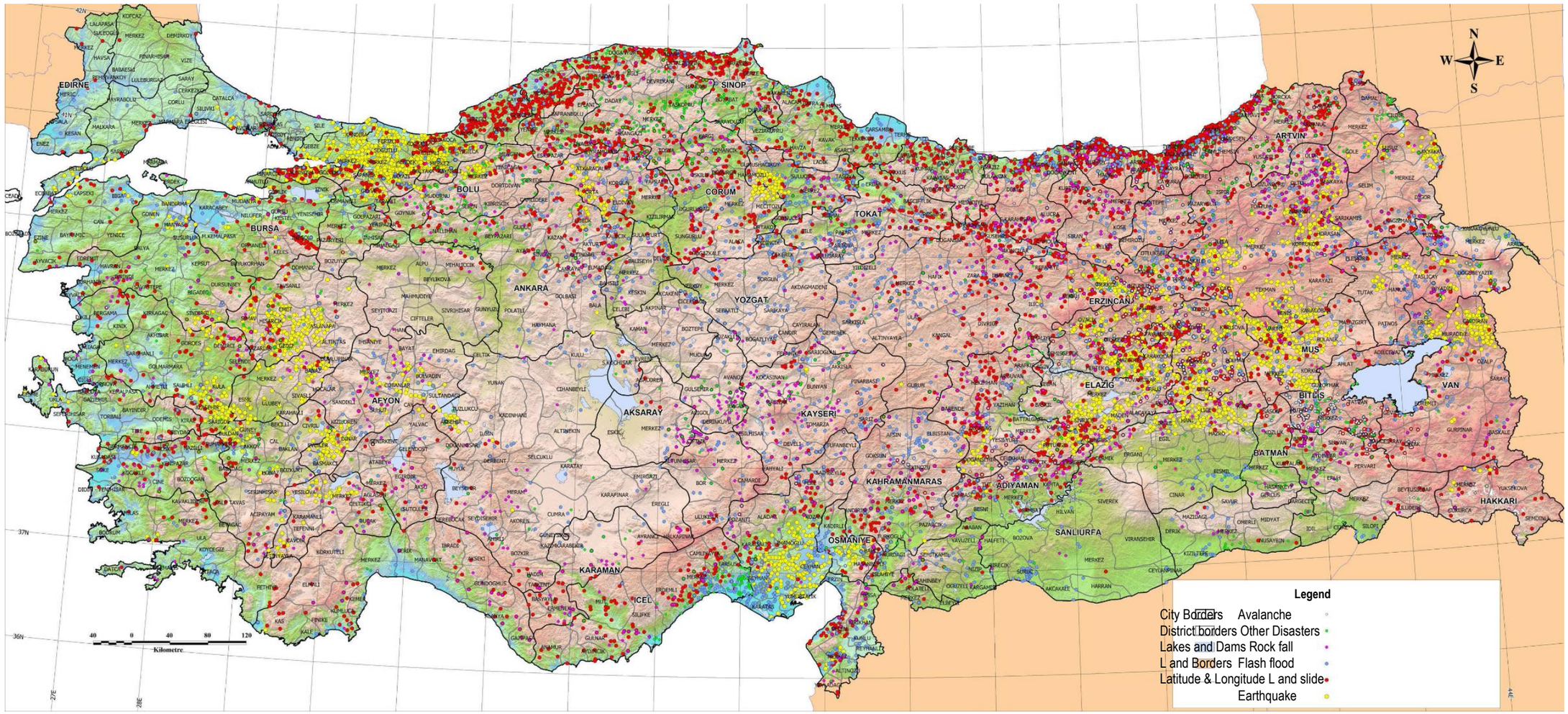

Figure 14. General distribution of disasters occurred in Turkey between 1950 and 2008
(AFAD, Retrieved 2015)

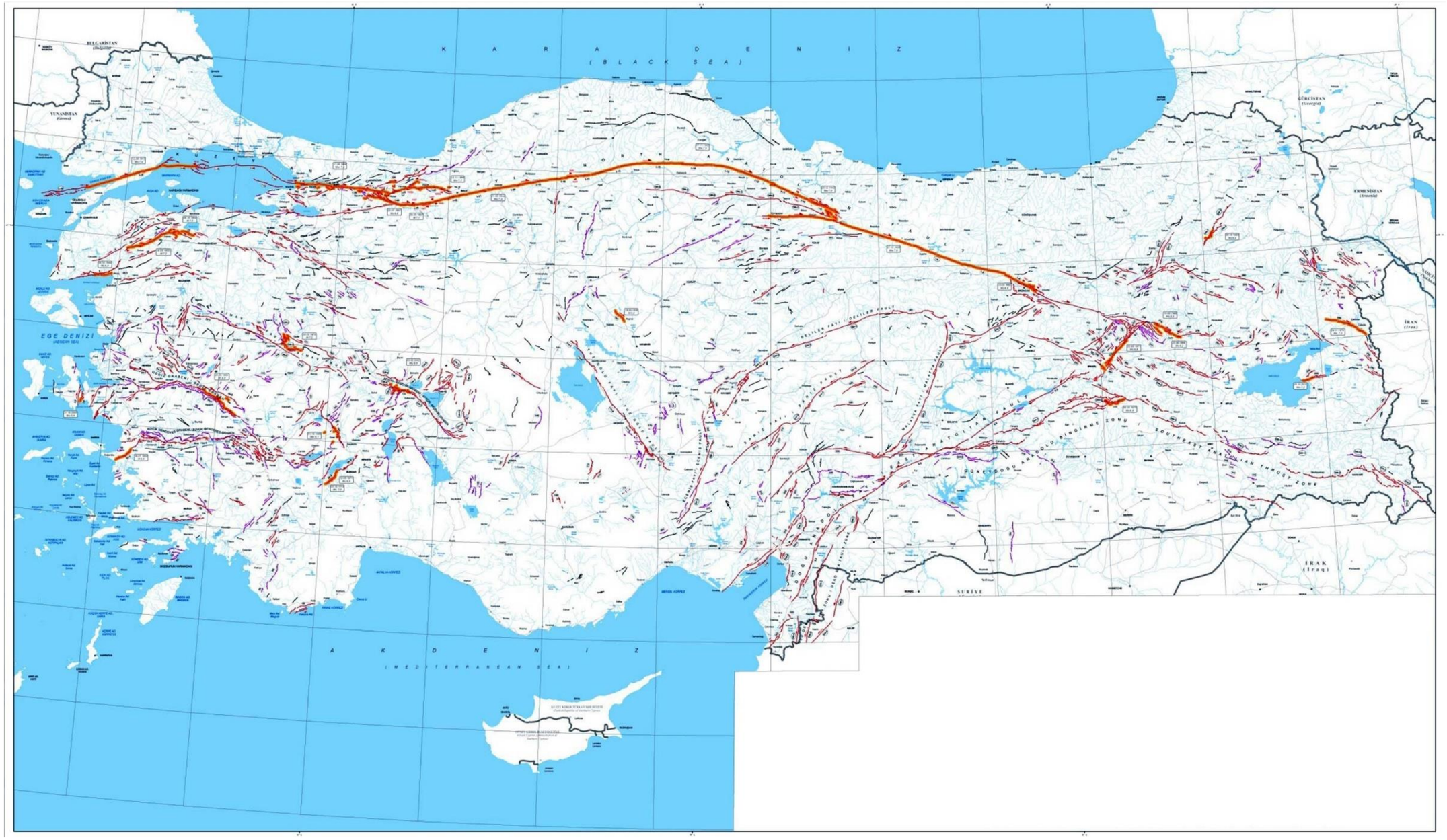

Figure 15. Active fault Map of Turkey

Source: www.mta.gov.tr

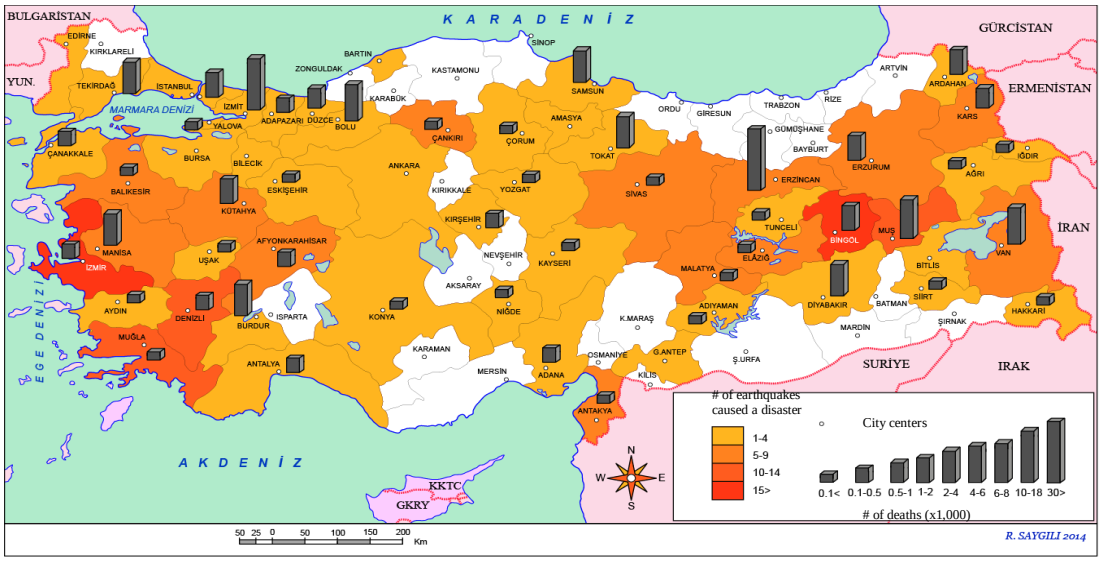

Figure 16. The earthquakes occurred between 1990 2013 and caused a disaster.
(AFAD, Retrieved 2015)

3.2.2. Land slides

According to a report prepared by Department of Disaster Studies and Damage Assessment (2008), landslides usually occurs in Eastern Black Sea Region (around Trabzon and Rize), Central and Western Black Sea Region (around Karabük, Bartın, Zonguldak and Kastamonu) and along active faults and fault zones. Figure 17 shows active faults and landslide point density map. The same research also shows that the number of landslides occurred (or the risk of landslide) are proportionate to the distance from active fault. Figure 18 shows the logarithmic relationship between number of landslides and the distance to faults.

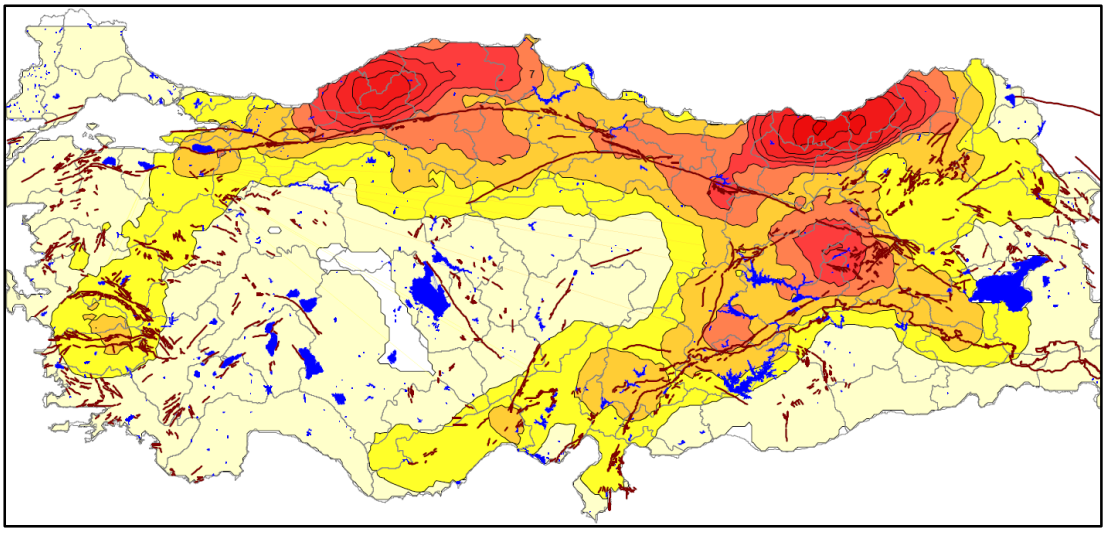

Figure 17. Active faults and landslide point density map.
(AFAD, Retrieved 2015)

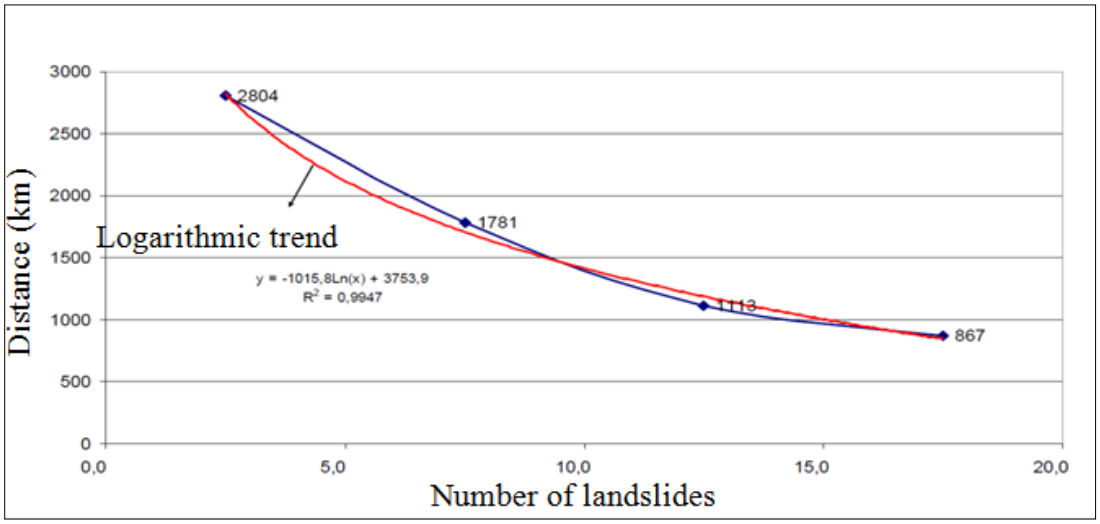

Figure 18. The logarithmic relationship between number of landslides and the distance to faults
(AFAD, Retrieved 2015)

3.2.3. Floods

Flood is an event that occurs according to meteorological and topographic characteristics of a region as well as characteristics of land use and human initiatives. Floods, in Turkey, concentrate around Kızılırmak, Yeşilırmak, the Euphrates and the eastern Black Sea Basins. Figure 19 shows the distribution of floods along cities by their numbers and Figure 20 shows the distribution of floods along cities by number of affected.

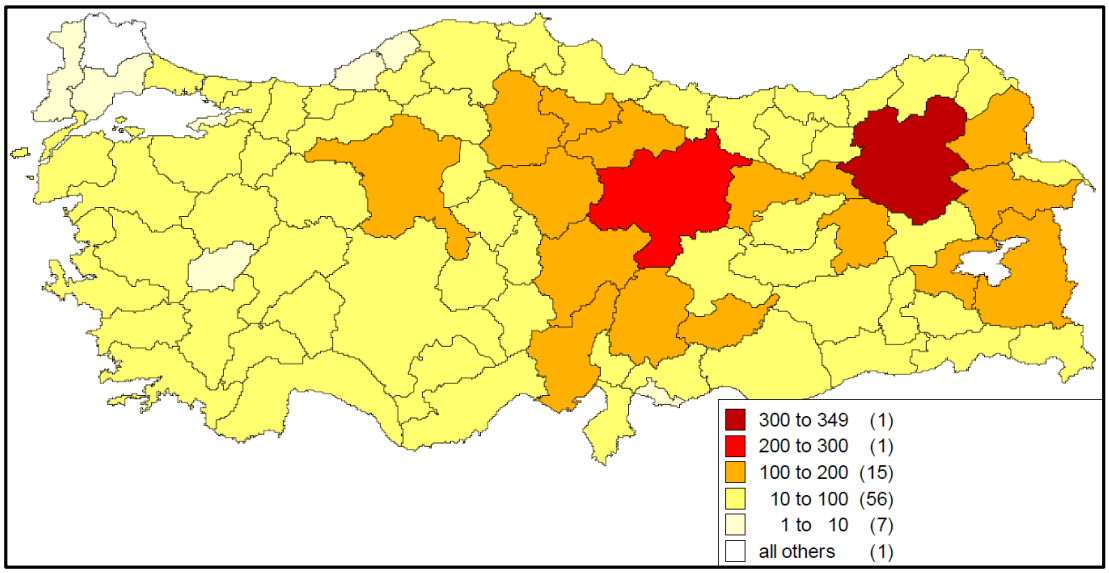

Figure 19. The distribution of floods along cities by their numbers
(AFAD, Retrieved 2015)

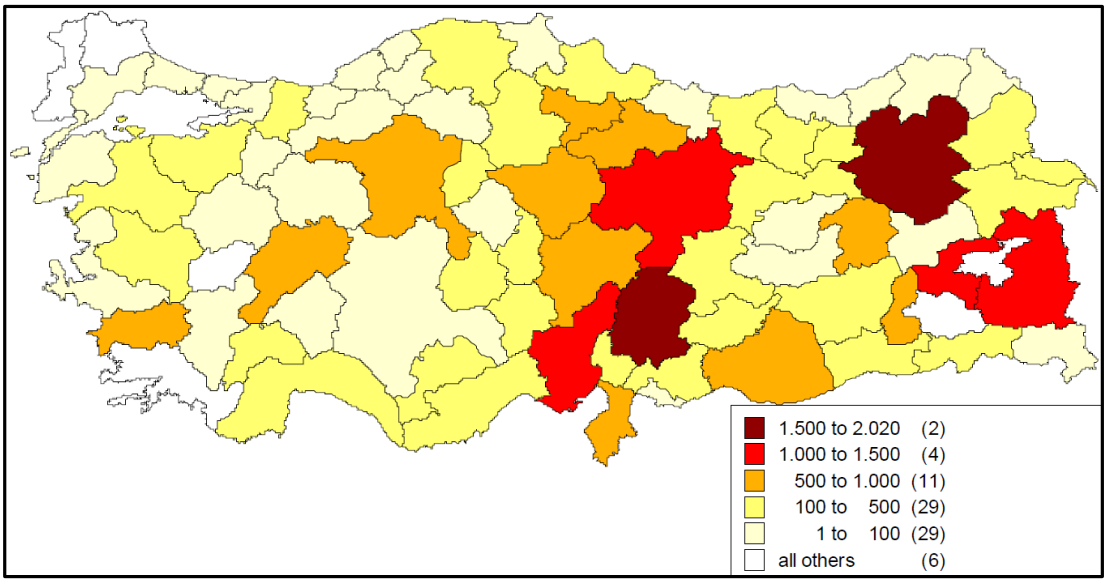

Figure 20. The distribution of floods along cities by number of affected
(AFAD, Retrieved 2015)

3.2.4. Rock Falls

Although every city in Turkey has affected, the rock falls usually concentrate at volcanic units about Kayseri, Nevşehir, Niğde and along over thrusts at Southeastern Anatolia Subduction Zone, and North Black Sea. Figure 21 shows the distribution of

rock falls along cities by their numbers and Figure 22 shows the distribution of rock falls along cities by number of affected.

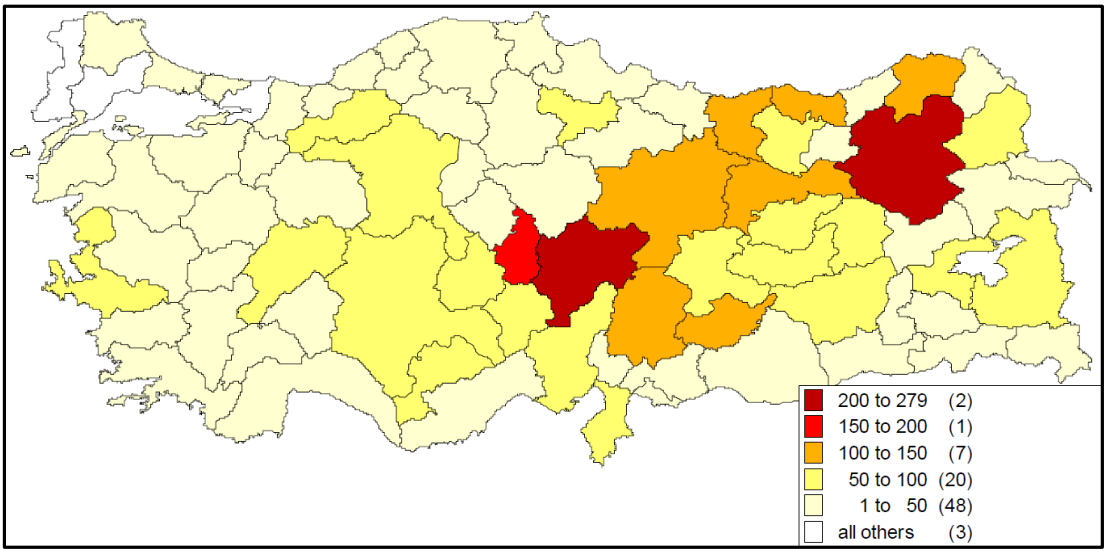

Figure 21. The distribution of rock falls along cities by their numbers
(AFAD, Retrieved 2015)

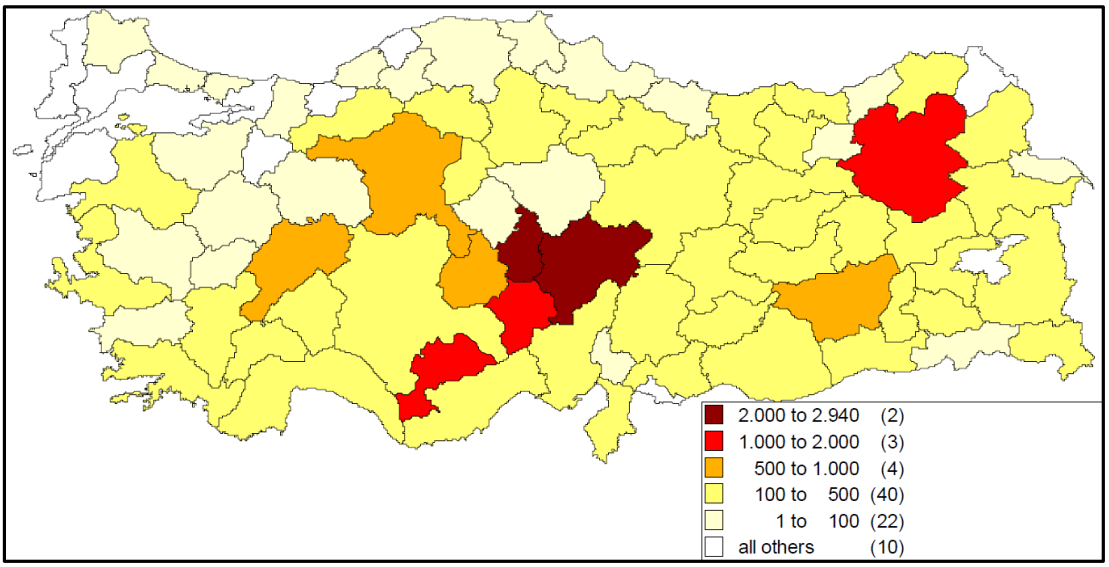

Figure 22. The distribution of rock falls along cities by number of affected
(AFAD, Retrieved 2015)

3.2.5. Avalanches

Avalanches in Turkey concentrates at the regions of Eastern Anatolia, the Northeast Black Sea Northeast that are high in altitude and of Southeastern Anatolia

Subduction Zone that are high in altitude and at which green field is poor. Figure 23 shows the distribution of avalanches along cities by their numbers and Figure 24 shows the distribution of avalanches along cities by number of affected.

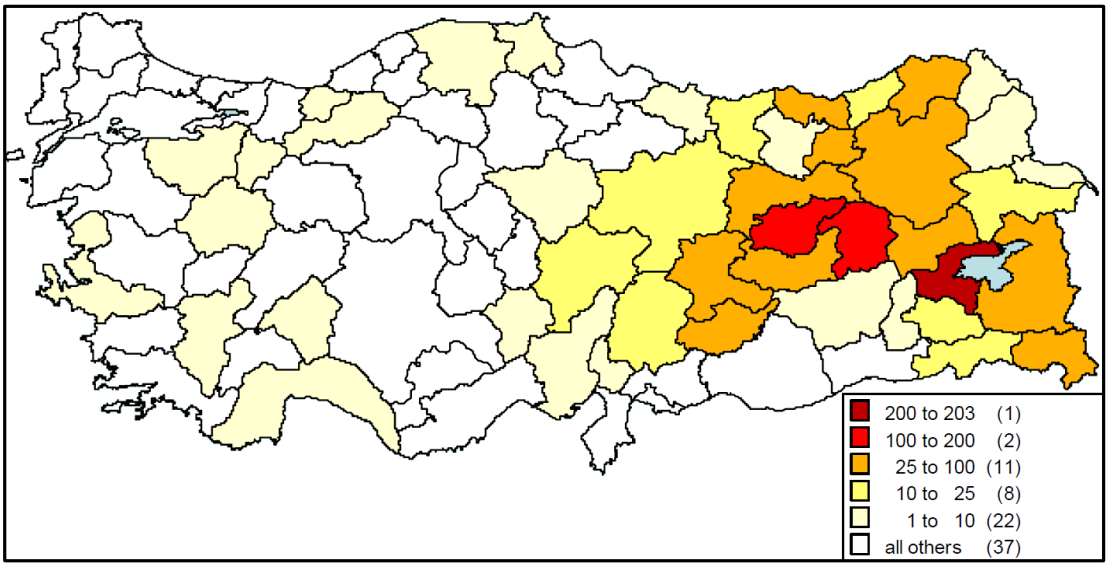

Figure 23. The distribution of avalanches along cities by their numbers
(AFAD, Retrieved 2015)

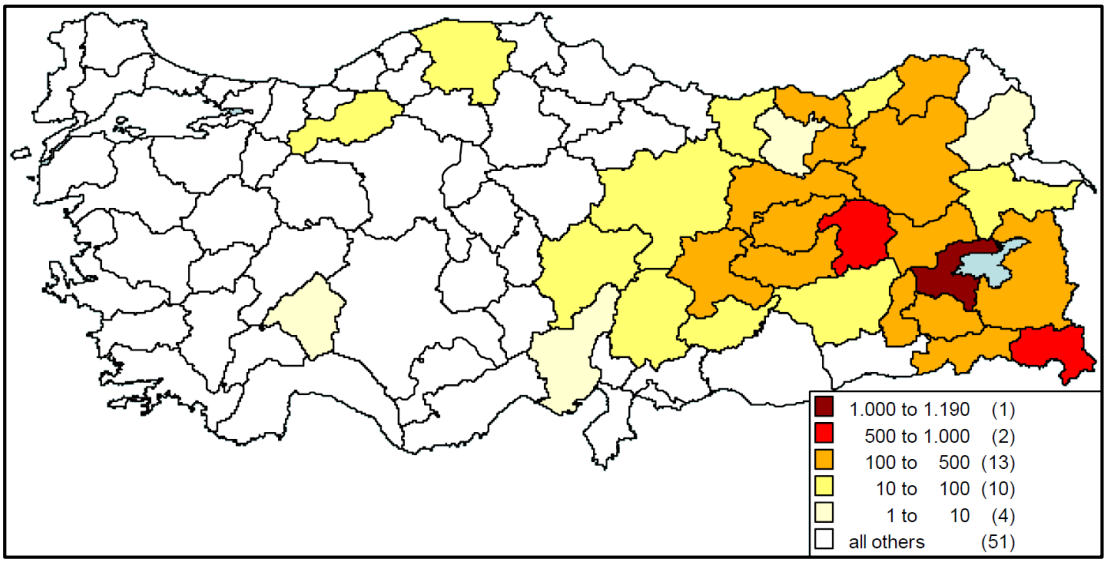

Figure 24. The distribution of avalanches along cities by number of affected
(AFAD, Retrieved 2015)

3.2.6. Other Disasters

The disasters other than earthquakes, floods, avalanches, falling rocks and landslides such as fires, heavy rains, tornadoes, geo-medical disasters and even extracted from the scope of disaster, cave collapses and the subsides are collected under the topic of other disasters. Fires, however, constitutes the majority of other disasters. Figure 25 shows the distribution of other disasters along cities by their numbers and Figure 26 shows the distribution of avalanches along cities by number of affected.

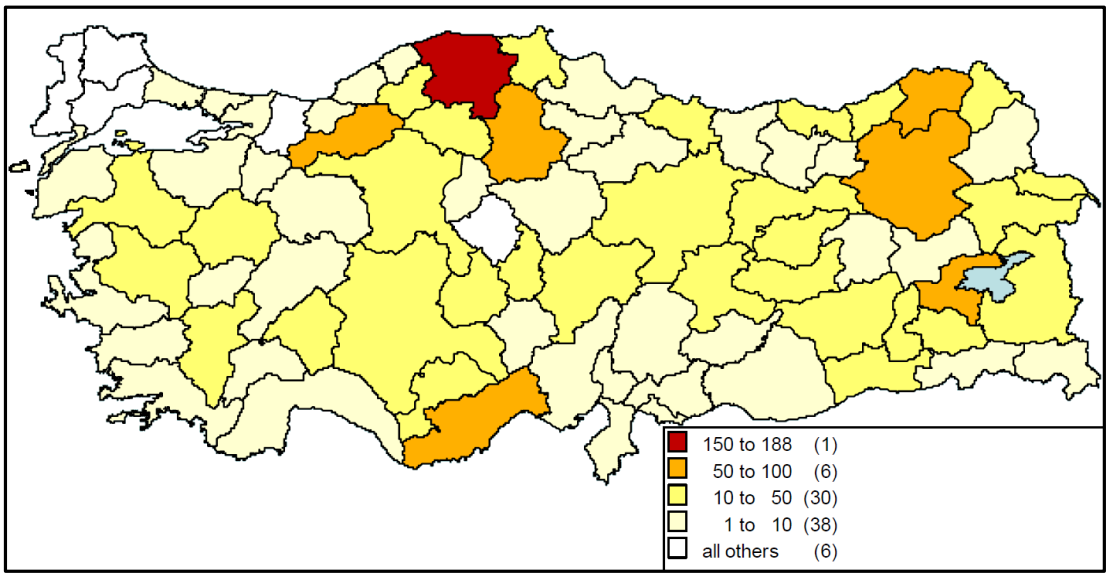

Figure 25. The distribution of other disasters along cities by their numbers
(AFAD, Retrieved 2015)

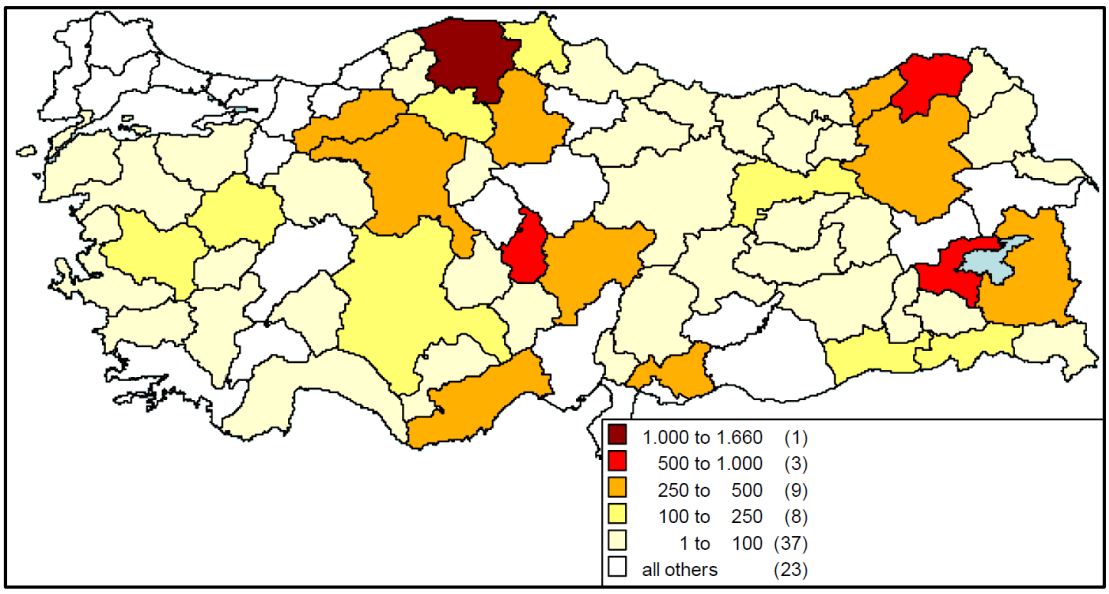

Figure 26. The distribution of other disasters along cities by number of affected
(AFAD, Retrieved 2015)

3.3. DISASTER MANAGEMENT IN TURKEY

For centuries, Turkey has been facing with disasters, and these disasters necessitated legal regulations. In this manner, the government conducted recovery works with institutional and legal regulations and also tried to take pre-disaster measures. In this process, Turkey, adopting generally a centralist approach, had hard times with establishing an integrated structure for disaster management. In general, the institutional and legal regulations can be analyzed in four periods (Çorbacıoğlu and Kapucu, 2003; Öztürk, 2003; Yılmaz, 2007; Unlu, Kapucu and Sahin, 2010):

1. Before 1944
2. 1944-1958
3. 1958-1999
4. After 1999

These periods are arranged according to the major natural disasters occurred in the history and legal and institutional regulations made after these disasters. Although almost every research made about Turkey uses these periods, most of these researches were conducted before the establishment of Disaster and Emergency Management Directorate (AFAD). Thus, adding another period for after 2009 would be appropriate.

The main reason accounted for most of the deaths recorded in Turkey in 1999, was the corruption pierced deep that is also intensified by absence of transparency and accountability and also the main reason of insufficient execution of suitable construction regulations (Özerdem, 2003).

3.3.1. Legal Regulations

Legal regulations, which should be assessed within the institutional context, constitute one of the parts necessary for disaster or natural disaster governance. Legal regulations create an environment for the political field and coordinate the legal environment which is important for applicability of relevant politics. On the other hand, operational field of the local actors of these politics takes the form according to

these legal regulations. In order to understand the transition, legal regulations should be assessed in chronological order.

3.3.1.1. Legal Regulations before 1944

With the "Municipal Law" No. 1580 which became effective in 1930, the municipalities were given control process powers related to housing construction and structuring (Yavaş, 2005: 124). This law later repealed partially.

After the major disaster occurred in 1939, namely "Erzincan Earthquake" –which resulted with approximately 30.000 deaths and 100.000 structural damage–, the government made some legal modifications according to the needs of the time. In 1940, the Law No.3773 regarding the aid for people affected from Erzincan Earthquake put in effect.

3.3.1.2. Legal Regulations between 1944 and 1958

The first law regarding earthquakes, namely "Precautions to be Taken Before and After Earthquake" Law No. 4623, was brought into force in 1944. This law includes the determination of the regions likely to be faced with a disaster, enforcement of some regulations for the regions that have disaster risk, obligation of geological surveys, responsibilities of citizens and institutions.

In compliance with the Law No. 4623, with the aid of Ministry of Public Works and concerned universities, Earthquake Zones Map and accordingly Turkey Earthquake Zone Regulation are prepared (Yavaş, 2005: 125; Earthquake Engineering Research and Application Center, 2013).

Another important characteristic of this period was the Zoning Law No.6785 which was put into effect in 1956. This law comprised of four chapters: Structure and Licensing Works, Topographic Map, Zoning and Road Plans, Unity and Defense Works and General Provisions (Official Gazette No. 9359). According to this law, construction and licensing, procedures were given priority and constructions were forced to be established according to zoning and destination plans. This law did not

allow construction on regions, which had disaster risks and obliged reinforcement or destruction for the structures which were already on these regions.

3.3.1.3. Legal Regulations between 1958 and 1999

Civil Defense Law No. 7126 which was put, in effect, in 1958, was one of the most important progresses in terms of transition movements. In the first article of this law, how civil defense activities would be handled against hostile activities; natural disasters and major fire was determined. With this law, what institutions and individuals were responsible was also described in case of a disaster.

Law No. 7269

One of the most important characteristics of this period was enforcement of "Law for Reliefs to be done with Precautions to be taken due to Disasters Effective on Public Life" No. 7269 (Disaster Law), which has been, in effect, until today. This law gathered all acts implemented in republican era (Yavaş, 2005). In addition, Balamir (2013) states that the Disaster Law No.7269 organizes damage assessment, entitlement, indemnity and emergency planning methods. It should be also noted that this law does not have an updated version according to AFAD Law No.5902.

Since it was the most decisive law until the Implementation of Law of Transformation of Areas under Risk No.6306, it is beneficial to examine in detail.

The first article of this law classifies the natural disasters (earthquake, ground shaking, fire, flood, land slide, rock fall, avalanche, subsidence and other disasters). Law No.7269 allocated the related ministries and assigned the areas that faced with flood to the related ministry of DSİ (State Water Works) and granted authorization to Ministry of Zoning and Housing for earthquake cases. Articles 4 and 6 mention the duties and emergency powers of governors and district governors during an earthquake period. Articles 7 and 11 of the same law define the responsibilities of what institutions at what level after a disaster. Article 13 was related to recovery period and regulates the technical activities to be done in a disaster zone. Article 16 of Law No. 7269 is related to transferring from an area under disaster risk to a safe location.

Regulation on Basic Rules Regarding Effect of Disasters on Public Life

"Regulation on Basic Rules Regarding Effect of Disasters on Public Life" constitutes another important part of 1958-1999 period in legal platform. As can be understood from the title of the regulation, the content of it consists of determination of the effectiveness of the natural disasters on general life. Number of buildings in cities and counties and number of dwellings in villages were taken base within the scope of the regulation (Yavaş, 2005).

Regulation on the Principles of Planning and Relief Organization related to Disaster

One of the most important characteristics of the third period of Turkey's natural disaster history is Regulation on the Principles of Planning and Relief Organization related to Disaster No. 88/12777 dated 1988. In the first article of said regulation, the main goals are planning all powers and resources of the government before disasters and delivering aid to affect areas with optimum efficiency in case of a disaster.

According to the regulation, governors and district governors have the first degree liability for the services in disaster zones in parallel with the Situation in Disaster-Relief Law No. 7269.

3.3.1.4. Regulations Enacted After 1999 Marmara Earthquake

Even the legal and institutional arrangements enacted after the Marmara earthquake are said to be the beginning of a new era, in fact, the extent of life and property losses has a large effect on 1999 being regarded as a milestone (Aydıner, 2015).

Law No. 7659 Put in Effect in 1999

Due to the extent of the damage resulted from 1999 Marmara Earthquake, Authorization Law Related to Measures to be Taken Against Natural Disasters and Regulations for Recovery of Losses due to Natural Disasters is enacted. The goal of the law, which constitutes of six articles, is specified in the first article:

> Identification of measures to be taken against natural disasters, recovery of the losses due to these disasters, establishment of new settlements, protection of development, procurement, contracting, consulting services and cultural and natural assets, civil defense, keeping current funds in operation and adding new

> funds when necessary, effective utilization of every kind of donations and assistance, regulation of economic matters, constitution of an insurance system for restitution after natural disasters (Law No. 7659, Article 1, 1999).

An annex of the first article, which was made on 02/12/1999, allows new municipalities established at disaster zones. Besides, premise regulation which will allow the establishment of Compulsory Earthquake Insurance, and Natural Disaster Insurance Institution are specified in this article. In this manner, said authorization law aims to remove the devastating effects of 1999 Marmara Earthquake immediately.

Compulsory Earthquake Insurance and Natural Disaster Insurance Institution

There was no other resources but state aid and international grants for recovery until 1999 Marmara Earthquake (Başbuğ, 2007). After the earthquake, disaster perception of the government, which is assumed to be changed, affected the development of insurance activities. Decree No. 587 related to Compulsory Earthquake Insurance put, in effect, in 25/11/1999 and Natural Disaster Insurance Institution (DASK) was established according to the same decree.[1] The first article of the decree explains the aim of compulsory earthquake insurance:

"…determination of principles and procedures regarding compulsory earthquake insurance in order for compensation of material damages of building owners or beneficial owners of the buildings lost or damaged due to an earthquake."

According to 4th article of said Decree, possessing its public entity, Natural Disaster Insurance Institution was established in order for performing other responsibilities brought with the same Decree. One of the goals of this Decree is to transfer some of the responsibilities regarding the recovery period to insurance system (Yavaş, 2005: 132). In this manner, the government was no longer the only actor with authority and responsible and beneficiaries were added to the process with regard to preparedness.

One of the field to which Turkey is vulnerable is implementation of risk reduction programs. After ignoring conservation part, which is one of the most important

[1] Official Gazette dated 5/11/1999.

phases of the disaster management cycle for years, making compulsory earthquake insurance obligatory and establishment of DASK as an executive organ is important steps. By this way, the beneficiaries are integrated in disaster mitigation works. The main aim here is to share the burden of disasters between the government and its citizens. In addition, encouragement of disaster resistant buildings is another goal of DASK (Başbuğ, 2015). Being a public-private partnership (PPP, 3P), DASK also has a responsibility of checking whether the buildings of insurers comply with necessary building codes (Başbuğ, 2015).

Law on Building Inspection No.4708 and Regulation on Procedures and Principles of Building Inspection Applications

Law No.4708 on Building Inspection and Regulation on Procedures put in effect, after 1999 Marmara Earthquake and Principles of Building Inspection Applications prepared according to this Law have great importance.

The aim of the Law No.4708 on Building Inspection dated 29/06/2001 is to prevent uncontrolled structuring.

The First Article of the Law which consists of fifteen articles bears great importance for understanding the Content of the Law:

> [P]roviding project and construction supervision for quality construction in accordance with the zoning plan, science, arts and health rules, and standards in order to ensure the safety of life and property and regulation of principles and procedures related to building inspection. (Law on Building Inspection No.4708, Article 1, 2001)

One of the important articles of the Law (Article 2) is allowing the establishment of construction supervision agencies. These agencies, which consist of architects and engineers (Article 2/2) are legal entities and supervised by centralized administration according to the Fourth Article of the Law. According to the Zoning Law No.3194, decision-making powers were not retracted, instead, a structure which would try to support the local government units was aimed (Yavaş, 2005).

According to the Regulation on Procedures and Principles of Building Inspection Applications[2], which has nine articles, it is aimed "to provide project and construction supervision for quality construction in accordance with the zoning plan, science, arts and health rules, and standards in order to ensure the safety of life and property and regulate the principles and procedures related to building inspection" (Article 1).

Law No.6306

The Law on Regeneration of Areas under Disaster Risk No.6306, which is also known as Urban Regeneration Law, changed the perception of disaster. Gathering all legal regulations before itself, this Law covered the pre-disaster processes of the disaster management cycle.

In Disaster Law No.7269, a process, which involves the three actors, for evacuation and transportation of citizens living in areas of risk was defined. However, according to the Article 3/1 of the new Law, an institution nominated by the ministry will be in charge and by this Law, construction supervision agencies became legal actors. With the new Law, the number of actors decreased and; in case of necessity, the ministry would become the only actor. According to second and twelfth paragraphs of sixth article of the Law, TOKI, Ministry and Government are authorized. By this way, the ministry would be the only actor for authorization of TOKI and government. On the other hand, according to the Balamir (2013), regeneration process should be understood as a part of social policy to reduce inequalities between households. Furthermore, extensive regeneration could be a means for encouraging citizens for partnership in the environmental management.

Law No.6306, comparing to the old Law, directed the perception of disaster towards pre-disaster processes.

The Ministry, TOKI and the Administration may also perform the consultancy, software, research, works concerning mapping, survey, design, cadaster,

[2] Official Gazette No.24491 dated 12/08/2001

expropriation, micro zoning, risk management and conservation planning works of any type and scale, scheming and development implementation works and transformation implementations of any type and scale by joint service models without being subject to Law No. 4734 within the framework of the protocols which they will sign with the administrations' subject to Law No. 4734.

With this manner, the term mitigation is indicated in the Law explicitly and the Ministry, TOKI and the Government became the authorized organs within the scope of disaster management expression (Savaş, Yavuzçehre and Aydıner, 2013).

3.3.2. Institutional Regulations

The institutional regulations in Turkey, same as the legal regulations, can be analyzed under four periods. The first reason for analyzing the institutional regulations separately is to assess the roles of actors in disaster management in order to better understand the concept of governance. Highly centralized administrative organization, which is one of the obstacles for transition from government to governance, also affects disaster management to a large extent. Centralized structure creates the perception that the government is the only capable actor. Another reason is that AFAD, established in 2009, has changed the operation and structure of disaster management organization. Thus, it will be better to analyze the period covering after 2009 as the fifth period (Genç, 2013).

3.3.2.1. Institutional Regulations between 1944–1958

Before 1944, only known actor was Turkish Red Crescent Society, which was first established in 1868. Before 1944 was an era at which there was only recovery but not disaster mitigation.

As mentioned before, the period of 1944-1958 was the first time some regulations regarding disaster mitigation took place. In this manner, an earthquake bureau was established under supervision of Ministry of Public Works, Head of Building and

Urban Affairs in 1953, and in 1955, it was converted to DE-SE-YA (Earthquake Flood Fire) Branch (Yavaş, 2005: 125).

3.3.2.2. Institutional Regulations between 1958–1999

The year of 1958 was acknowledged as the beginning in terms of legal regulations. The Disaster Law No.7269, which is still in effect with some amendments, was the most important characteristics of the time. This era can be thought as the beginning of a disaster management in which new actors are created. Establishment of The Ministry of Construction and Housing was the starting point of this era.

Establishment of the Ministry of Construction and Housing and General Directorate of Civil Defense

The aim of The Ministry of Construction and Housing was to take necessary measures, carry out planning of cities and villages, help finding solutions to housing problems and develop building materials standards, which were transferred from Ministry of Public Works (Yılmaz, 2005: 126). With Civil Defense Law No.7126, which was enacted at the same year, the responsibility of rescue and first aid efforts are transferred to related ministry (Yılmaz, 2005: 126).

Another important progress accomplished with the Law No.7126 was establishment of General Directorate of Civil Defense. The duties of related directorate were arranged in the third part of the Law (Yılmaz, 2005: 96). Another law which regulates the duties of the directorate was Disaster Relief Law No.7269. The General Directorate of Civil Defense was, in general, an institution which organizes the post-disaster processes.

General Directorate of Disaster Affairs

Earthquake Bureau, which was established in 1953, was converted to DE-SE-YA (Earthquake Flood Fire) in 1955 along with Ministry of Reconstruction and Housing, which was established in 1958, and integrated to related ministry (Yılmaz, 2005: 92). With Disaster Law No.7269, this unit was removed and Department of Disaster Affairs was established and then, in 1964, this unit was organized as a separate

general directorate and named as General Directorate of Disaster Affairs (Yılmaz, 2005; Geray, 1977).

The duties of General Directorate of Disaster Affairs can be listed under a number of titles (Yılmaz, 2005):
Providing first aid and coordination during a disaster;
Regulating temporary shelter and settlement activities in disaster areas;
Having development plans, projects and audit work done in areas faced with disaster or carrying disaster risk, providing that the pre-disaster processes are covered.

Prime Ministry Emergency Coordination Board
Within the frame of Regulation on Establishment of Emergency Board and Bureaus and Determination and Payment of Fee for its Duties and Responsibilities No. 84/7778 dated 21/02/1984, it was structured as a board whose presence is necessary in case an emergency (Yavaş, 2005).
In a paragraph of third article of the Regulation, Emergency Coordination Board actors were mentioned. This board, which will work under supervision of a minister appointed by the Prime Minister, was the executive of state of emergency.

The duties of Emergency Coordination Board are indicated in the fifth article of said Regulation. Executing the duties regarding the state of emergency given by Council of Ministers, analyzing the emergency zone and taking necessary measures and organization of provincial governorships can be listed among these duties.

Prime Ministry Crisis Management Center
One of the temporary structures constituted in case of a crisis is Prime Ministry Crisis Management Center. This center, which carries its duties out within the scope of Prime Ministry Crisis Management Center, is an important organization (Yılmaz, 2005) in terms of central organization.

Crisis definition is given in a paragraph of fourth article of the Regulation and it is indicated that one of the factors which may cause a crisis is natural disasters.

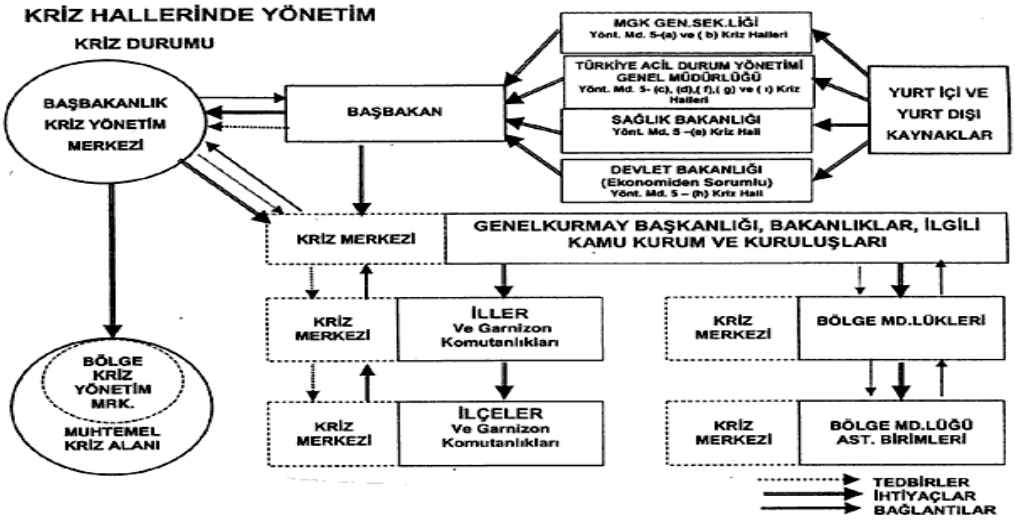

Figure 27. Management in case of a Crisis
(Official Gazette No.24853 dated 21/08/2002)

Prime Ministry Crisis Management Center, which was established in 1996, was subject to some amendments along with institutional and legal arrangements after 1999 Marmara Earthquake. In this manner, a new regulation, which reorganizes the activities of the center, was prepared in 2002 and a scheme showing the management in case of an emergency was provided.

As can be seen from the scheme, there are many actors which are expected to act in case of a crisis. All of these actors are from public corporations and non-governmental organizations or professional chambers, associations or foundations are not involved in the process.

3.3.2.3. Institutional Regulations done between 1999–2009

Turkey Emergency Management General Directorate

Turkey Emergency Management General Directorate was established after 1999 Marmara Earthquake according to the Decree No.600 within the scope of Marmara Earthquake Emergency Reconstruction Project[3] (Yavaş, 2005).

[3] Official Gazette No.23884 dated 22/11/1999 (Repeated)

Duties of this unit can be listed as coordination between centers in order to provide emergency management in most effective way, taking measures to prevent emergency situations.

Natural Disaster Coordination Council

Another temporary structure constituted in case of a crisis is Natural Disaster Coordination Council[4]. This council was, until it was dismissed, responsible for planning all of the services and aids related to disaster (Yavaş, 2005).

This council, which consists of Interior, Finance, Public Works and Housing and Health Ministers under supervision of a secretary of state, was an institution which only managed to strengthen centralized disaster management.

3.3.2.4. Period after 2009 and Establishment of Disaster and Emergency Management Directorate (AFAD)

According to the "Law on Organization and Duties of Disaster and Emergency Management Presidency" No.5902, the institutions listed above are dismissed. Coordination and execution of all disaster related works by only one institution instead of many actors and institutions led to a new corporate restructuring (Akay, 2011). By this way, the infrastructure necessary for establishment of AFAD was created. After establishment of AFAD, Turkey Emergency Management General Directorate.General Directorate of Disaster Affairs and General Directorate of Civil Defense were dismissed and their authorizations were transferred to AFAD (Genç, 2013).

According to Foundation Law and Article, the unit is responsible for determination of all politics which should cover all pre- and post-disaster processes and creation of necessary planning principles. In Article 6 of Foundation Law of AFAD, organization is mentioned and it is aimed to build a structure which can discuss the disaster management cycle as a whole. These units are Presidency, Planning and

[4] Prime Minister Circular No.B.02.PPG.0.12-320-4700 dated 20/03/2003

Mitigation Department, Recovery Department, Department of Civil Defense, Earthquake Department and Department of Management Services. In addition, Disaster and Emergency Supreme Council, Disaster and Emergency Coordination Board and Earthquake Advisory Board were established according to the Law (Aktel, 2010) and the structures similar to the boards which were presented before the law (Akay, 2011) had the chance to continue their activities.

According to the Law No.5902, Provincial Disaster and Emergency Directorates dependent to the governor were established within Provincial Special Administration (Genç, 2013). These directorates kept provincial / district rescue and relief committees but transferred the duty of secretariat to Provincial Disaster and Emergency Directorates (Çelik and Çorbacıoğlu, 2011). The main duties of said unit can be listed as below:

Determination of disaster and emergency hazards and risks of the province;
Creation and execution of provincial disaster and emergency prevention and intervention plans with aid and coordination of public institutions and organizations and the local authorities;

- Management of Provincial disaster and emergency management center;
- Determination of damage and loss in case of disaster and emergency;
- Conduction training activities related to disaster and emergency;
- Accreditation and certification of non-governmental organizations and volunteers ;
- Preparation and execution of civil defense plans at provincial and district level;
- Establishment and management of warehouses for food, tools, equipment and materials to be used for meeting shelter, food and health needs of the public, along with search and rescue equipment needed in case of a disaster or emergency;
- Execution of duties related to civil defense services and mobilization and war preparations identified in regarding regulation;
- Preparation of annual budget proposal;

- Carrying out secretariat activities of city rescue and relief committees;
- Carrying out the services regarding determination, diagnosing and decontamination of chemical, biological, radiological and nuclear materials providing cooperation and coordination between related institutions and organizations;
- Carrying out other duties assigned by president and governors (article 18; Genç, 2013).

According to Duyguluer's (2015) study, all the other laws directly or indirectly related to disaster and urban regeneration given in the Appendix I.

3.3.3. Criticism on Regulations

Considering that the problems related to disaster management can be overcome with the aid of governance principle, the necessity of a disaster management system anticipating the involvement of government, non-governmental organizations, professional chambers, chambers of commerce, citizens should be accepted. In this manner, one of the important duties of the government is to set some legal regulations which will strengthen the mitigation part of disaster management. In other words, the government should be the organizer for technical and social affairs that should be done before disaster occurs instead of being the single actor who will execute every step of disaster management.

We cannot mention a disaster management system which involves civil society and other professional chambers, associations and foundations, voluntary organizations and, in the most general sense, citizens for Turkey. Reform efforts of the government with only legal and institutional arrangements as the only powerful actor is not enough for creating solutions. In case all of the civil society actors excluded from decision-making and implementation stages, disaster management actors of the government come into prominence. Turkey Emergency Management General Directorate, General Directorate of Disaster Affairs, General Directorate of Civil Defense and Prime Ministry Crisis Management Center were the most powerful actors in this manner until the establishment of Disaster and Emergency Management

Directorate (AFAD). Below, each and every law stated above is analyzed in terms of these requirements following the criticism of each era individually.

1950s represents an era at which the cities of Turkey transformed in terms of economic and politics and faced with population pressure (Yavuzçehre, 2011). After transition to multi-party system, liberalization policies have created an important transformation on urban space (Kamacı and Örmecioğlu, 2005). Economic structure of 1950s also affected the urban space of 1960s. In 1960s, urban migration gained speed with industrialization based on import substitution (Kalaycıoğlu, 1992) and triggered unplanned and unhealthy urbanization (Yavaş, 2005). Unplanned urbanization also caused construction systems are unchecked. Cities became vulnerable against disasters. The problems Turkey has been facing with are clear examples of this situation. These problems, mainly the results of dominance of central government in highly localized problem. Following, the regulations made in Turkey are analyzed in terms of their contribution to Turkey's process in disaster management by periods set out before and the differences between traditional and strategic approaches which will provide a better understanding the insufficiency of these regulations.

Table 4. Comparison of Traditional Approach and Strategic Disaster Management

Disaster Policy on Traditional Approach	Strategic Approach to Disaster Policy
Directed to response	Guess & prevent approach
Disaster and event-driven	Vulnerability and risk-oriented
Reactive-wait and see approach	Proactive actions
Responsible one authority	Responsible local authorities and stakeholders
Local approach	Large, alterable, regional approach
Main goal is to event interference	Mainly pre-disaster studies
Plans in risk area are prepared only by experts	Plans in risk areas are prepared with participation of citizens
One-disciplinary approach	Multi-disciplinary approach
Process is related only to engineering and planning	In addition to engineering, process is related to economic, social and environmental issues

(Kaya, 2010; Can, 2005, Quoted by Akay, 2011 p.460)

As indicated in the table, there are severe differences between traditional approach and strategic approach. First of all, as highlighted above, the definition of disaster bears a great importance in terms of regulations to be made on disaster politics. The breaking point here is determining whether the pre-disaster processes are more important than post-disaster processes. The perception of that the disaster is inevitable and it will occur one way or another strengthens the event and intervention oriented disaster management approach and makes impossible to make any regulation until disaster occurs.

Before 1944: The very first law regarding disasters was "Municipal Law" No. 1580. Although this law brought the regulations meeting the requirements of its time, there were no direct provisions regarding the disaster mitigation (Yılmaz, 2005).

1944-1958: The period of 1944-1958 shows that there were some changes in disaster perception of the government from reactive approach to pro-active approach. For instance, it is thought that the idea of insufficiency of building a new one for those collapsed in earthquake had a great effect on preparation of "Precautions to be Taken Before and After Earthquake" Law No. 4623, 1944 (Yavaş, 2005; Öztürk, 2003). This was the first time that government regulated pre-disaster operations. With this law, the central government was obliged with some pre-disaster duties for the first time. In addition, in terms of institutional regulations, the era of 1944-1958 can be understood at which new actors were created for disaster management and the government was tend to make some regulations with the aid of new institutions. However, the legal changes made in this period did not lessen the damages of disasters due to lack of management strategies and Turkey had suffered great problems due to disasters.

1958-1999: The period of 1958-1999 may be considered as beginning of some changes for disaster mitigation. However, although Law No. 7269 constitutes articles regarding pre-disaster and post-disaster actions, it focuses on the letter; for instance, the law does not have a definition for "risk" which is, as indicated before, the main reason for existence of disaster.

This law gives extraordinary powers to governors in a disaster situation[5]. The governor has the power to manage all public and private resources and means as the absolute and only authority. This property of the law shows us that the management structure of the time was highly centralized. In general, regulating post-disaster processes, this law shaped the disaster perception as processes "after disaster".

Although this law was one of the most modern and comprehensive disaster laws internationally (Yavaş, 2005), it had two major gaps. One of the shortcomings of the law was that its response processes includes only the basic needs such as distribution of tents and blankets but not professional aids. Other issue is that there were no

[5] Anyone who is a civil servant employed at the lowest level of the service can be assigned as governor by the central government, i.e. education level is not the basic criteria for this position (Ersoy, 2014).

check on the permit of the building of victims and insurance compensation of those who executed the construction processes according to the regulations and took out a policy was cut from their allowances. In other words, those who did not follow the regulations were encouraged and rewarded (Balamir, 2000).

"Regulation on Basic Rules Regarding Effect of Disasters on Public Life" has a great importance in terms of reflecting the natural disasters perception of the time in question. For instance, in second article of said regulation, there is a phrase indicating that at least 20 building should be demolished in villages whose population is up to 5000. This means that the number of buildings which do not comply with the regulation is not perceived as disaster. Regulation on the Principles of Planning and Relief Organization related to Disaster No. 88/12777 dated 1988 is the one that was prepared on the bases of the thought that the disasters cannot be prevented.

The Regulation on Basic Rules Regarding Effect of Disasters on Public Life and Regulation on the Principles of Planning and Relief Organization related to Disaster, in which post-disaster aid process is organized in parallel with the base logic of Disaster Relief Law No. 7269, has shortcomings for both sides in terms of an ideal disaster management model.

First of all, its aims were identifying the post-disaster aid process according to general characteristics of time and beneficiaries who can benefit from disaster fund. However, there is no criterion for checking the legality of the buildings. On the other hand, since the number of building collapsed or damaged determines the event as disaster, the event will not be evaluated as a disaster if the number of buildings collapsed is below the specified amount. Even such description is acceptable; it ignores the owners of the buildings damaged when the number specified is not reached. Concordantly, there must be a state of emergency in order to determine the beneficiaries of disaster fund.

Analyzing the period in terms of institutional regulations, The Ministry of Construction and Housing, which was established in 1958, was an important success

for the period of 1958-1999. Since the mitigation process was not fully taken into account till 1958, necessary measures for housing problems were not taken. Analyzing the duties of General Directorate of Disaster Affairs, on the other hand, the responsibility of it covers all of the pre- and post-disaster processes. However, activities of this directorate cover, in general, the post-disaster processes and rules out the mitigation processes at a large extent. In addition, even the duties of the Turkey Emergency Management General Directorate covers some pre-disaster related regulations, it failed to satisfy the creation of an institutionalized and enduring disaster policy since most of its budget was spent on recovery of Marmara Earthquake.

1999-…: Law No. 7659 and Decree No. 587 Related to Compulsory Earthquake Insurance put in effect in 25/11/1999 and Natural Disaster Insurance Institution (DASK) are not sufficient for mitigation. There are mainly three reasons for that. First of all, the government has not made any distinction between whom have policy and who have not. After the 2010 Elazığ Earthquake, for instance, all of the survivors had financial support which was given by the government due to "populism and humanitarian concerns" (Başbuğ, 2015). Such policy led citizens to idea of that there is no need for compulsory policy since the government helps everyone whether they have the policy or not, decreasing the number of policies made each year.
Second, the scope of DASK does not cover rural areas and public and commercial buildings (Başbuğ, 2015). Lastly, there is not enough sanction making DASK policies obliged. Citizens asked for policies at specific points such as the case of a sale of the house or new electricity or water subscription (Başbuğ, 2015). In addition to these pre-disaster shortcomings, the policy does not cover important results of disasters such as removal of rubbles or bankruptcy due to earthquake, leading, again, people not having policy (Başbuğ, 2015).

Development of the areas within the scope of DASK and extension of execution area for compulsory earthquake insurance will provide disaster mitigation processes more integrated. However, the Minister of Finance made a statement in 2011 that the insurance money collected for earthquake was spent for healthcare, education,

double highways and railroads (Karip, 2011) and this shows where Turkey is in terms of accountability.

Zoning Law No.3194 which was enacted in this period led to conflict of competence between central government as the supervisor and the local government as supported unit. In addition, Disaster Law No.7269 did not have the characteristics which provide the necessary response to natural disasters Turkey faced with. Even it was put in effect after the 2011 Van Earthquake, said Law, for the first time, did not involve any article related to recovery process. In other words, this Law is more comprehensive compared to other laws which were usually put in effect after a disaster occurs (Yavuzçehre and Aydıner, 2013). However, Van Earthquake showed us the deficiencies in DRM especially in emergency phase. The studies made during and after the earthquakes highlighted insufficiency, lack of transparency and power conflict between mayorship and municipalities. In the Tabanlı-Van and Erdemit Van Report written by Karancı et al. unfolding some important governance and management issues such as lack of coordination at disaster relief efforts (Başbuğ et.al, 2011).

Reconstruction of buildings mentioned in Law No.6306 is a small portion of the mitigation process which we can call rehabilitation. The main problem in Turkish disaster movement system is to see recovery and rehabilitation processes as mitigation. Moreover, cooperation between these three governmental institutions does not support the idea of participation in all levels which Turkish Government accepted in international area.

It can be said that the establishment of AFAD is the most important event of this period. Even some experts stated that this has started a new period as after 2009 since AFAD is believed as the final point in disaster management in Turkey. However, establishment of AFAD will not provide an instant transition from traditional approach to strategic approach. In fact, expecting that a single institution will provide this tradition does not comply with the basic logic of civil society-driven disaster management approach which complies with governance principles. The

subject which should be focused on is to discuss the transition disaster management approach of the government. It can be described as a positive transformation compared to previous periods that the term “mitigation” is included in the Disaster Law which was enacted in 2011 and a directorate is established under this name under the structure of AFAD.

In addition, although some local actors such as universities, private sector, and media are mentioned in Turkey Disaster Response Plan 2013 of AFAD as solution partners for Psychological Support (see Table 5), there is no definite explanation of their responsibilities. In fact, media, for instance, can be a great mean in rising awareness of community since they can easily access through TVs, radios and online newspapers before disaster. Universities can help government with planning the pre-disaster periods. One of the examples of universities participating in disaster mitigation process is Mexico. In Mexico, a university network (UNIRED) was established in 1997 to mobilize volunteers from universities to collect and share information on hazard scenarios throughout the country and abroad. The network taps into more than 60 Mexican universities and has links with governments, the private sector and international organizations outside the country. Volunteers are in charge of all initiatives, recruiting other volunteers, training them, designing and implementing risk assessment, and coordinating humanitarian aid collection.(Turhan, 2006)

On the other hand, there is also no explicit explanation about disaster volunteers. In all stages of a disaster system, volunteers can help governments, officials, or disaster victims. The best example of this is the FEMA of United States. FEMA, American disaster volunteer, has thousands of teams of “Disaster Relief Officers” who are professional voluntaries trained by FEMA and ready to be sent in case of need or temporary paid employees to support emergency response teams in case of an emergency. The main responsibility of these teams is to participate to search- and -rescue operations directly and provide integration between groups. These officers perform a number of active duties such as interviewing with disaster victims, participating in damage assessment works, informing people and providing

coordination and collaboration with governmental agencies (Şener et. al., 2002). In a similar way, governmental institutions can participate in encouraging volunteerism and help to raise the awareness. Germany, for instance, has a great power to cope with a state of emergency thanks to the organizations who works to integrate. These organizations are the Fire Department with 30,000 professional personnel and about 1.1 million voluntary supporters and THW (Techicnes Hilfswerk) which provides technical support for rescue operations with 40,000 ready and 10,000 reserve employees. In addition to these, a number of volunteers participate in response activities under, such as, German Red Cross, Johanitter Accident Assistance, and Maltaser Assistance. There are about 1.8 million volunteers are trained and they attend training activities and exercises regularly. In fact, they also bring these trainings to bear with daily events requiring emergency aid. (Dormes et al., 2000)

In general; Turkish government has had a reactive approach. As indicated above, Tukey has suffered from earthquakes most and thus, the regulations enacted through its history were related to earthquakes. The disaster management system in Turkey is still not suitable for all types of disasters. For instance, this inability had best showed itself in 2003 Istanbul terrorist attacks. The Turkish government had showed that they were not ready for such a disaster at all. The current disaster system which is generally responsive is based on holding state agencies responsible through legislations. It can be said that administrative system is away from governance since the legislations in Turkey only mention participation in disaster management and focuses on centralized management, and is week in terms of predictability due to changes made only after disasters. Because the institutions established and laws put in force without forming an infrastructure according to reports prepared and actions taken since HFA, these institutions and laws has been unable to give the desired success (JICA, 2004).

“An adaptive organizational system through organizational flexibility and technical infrastructure enables its organizations to relax or eliminate other functions temporarily when needed." (Çorbacıoğlu, 2006). Responsive and linear approaches are the most common frameworks for disaster management. In Turkeys' bureaucracy

that indignities linear assumption method assigns duties to local governments with hierarchical order and limits its duties and responsibilities with the capability of low incentives in a disaster situation. The responsive approach is based on chaos and complexity theory, refuses linear approach, strict regulations, control and hierarchy oriented management approach of central authority and it adds local organizations by putting forward horizontal coordination and teamwork.

Table 5. Main and supporting partners of service groups in the operation service

SERVICE GROUPS / SERVICE GROUP	AFAD	PRESIDENCY OF GENERAL STAFF	DIRECTORATE OF RELIGIOUS AFFAIRS	MINISTRY OF JUSTICE	MINISTRY OF FAMILY AND SOCIAL POLICIES	MINISTRY OF SCIENCE, INDUSTRY AND TECHNOLOGY	MINISTRY OF LABOR AND SOCIAL SECURITY	MINISTRY OF ENVIRONMENT AND URBANIZATION	FOREIGN MINISTRY	MINISTRY OF ENERGY AND NATURAL RESOURCES	THE MINISTRY OF YOUTH AND SPORTS	MINISTRY OF FOOD, AGRICULTURE AND LIVESTOCK	MINISTRY OF CUSTOMS AND TRADE	MINISTRY OF INTERIOR	MINISTRY OF DEVELOPMENT	THE MINISTRY OF CULTURE AND TOURISM	FINANCE MINISTRY	MINISTRY OF NATIONAL EDUCATION	MINISTRY OF FORESTRY AND WATER AFFAIRS	MINISTRY OF HEALTH	TRANSPORT, MARITIME AFFAIRS AND	MIT	UNDERSECRETARIAT OF PUBLIC ORDER AND	HOUSING DEVELOPMENT ADMINISTRATION OF TURKEY	KIZILAY	NGO	PRIVATE SECTOR	UNIVERSITIES	MEDIA	TRT	TURKSAT	THY
COMMUNICATION		D												D					D	D	S				D	D	D					
TRANSPORTATION INFRASTRUCTURE														D					D		S					D	D					D
SAFETY AND TRAFFIC		D												S								D	D				D					
SEARCH AND RESCUE	S	D								D				D							D					D	D					
HEALTH		D						D				D		D						S					D	D	D					
FIRE		D				D	D	D		D			D	S					D								D					
ACCOMMODATION	S	D			D			D			D			D				D						D	D	D	D					
NUTRITION					D							D		D						D					S	D	D					
PSYCHOSOCIAL SUPPORT			D		S						D			D		D		D		D					D	D	D	D	D			
FUNERAL			D	D					D					S						D						D	D					
DAMAGE ASSESSMENT								S		ALL AGENCIES WITH ENGINEERING CAPACITY																						
WRECK REMOVAL								S						D													D					
FOOD, AGRICULTURE AND LIVESTOCK								D				S	D	D						D						D	D					
INFRASTRUCTURE								S		D				D													D					
ENERGY								D		S									D								D					
TRANSPORT		D										D		D							S				D	D	D					D
EVACUATION		D			D							D		S		D		D													
KBRN	S	D				D		D		D		D	D	D					D	D	D											

(TAMP, 2014)

Instead of control and command based linear approach, chaos and complexity approach foresees flexible organization which enables continuous information flow ground on complexity and change. It is designed to fulfil developments related to the issue of effective governance contrary to the hierarchy in the theory; the legislation gives direction to services. Responsive organization approach different from Turkeys' bureaucratic organizational structure is an effective management model in unexpectedly occurring and leading chaotic consequence disasters.

The core of disaster management in Turkey comprises civil administration, laws and regulations give civil administration extraordinary powers and responsibilities. Turkey has suffered from this linear approach. Çorbacıoğlu (2006) states that "Regrettably, the official policies have been ineffective enough at managing an intergovernmental collective action, because of the fallibility of their linear assumptions in complex disaster environment". (p. 12). These powers and obligations are used in the superior-subordinate relationships.

3.4. LOCAL ACTORS IN DISASTER MANAGEMENT IN TURKEY

The need for a multi-stakeholder approach is crucial for risk reduction in the long run. It should have characteristic of advocacy, co-ordination, consultation and analysis on disaster risk reduction and related policies. In Turkey disaster management system, in terms of laws & institutions, is insufficient in assigning roles and responsibilities to actors aside from government, local government and the Red Crescent in Turkey. In the report “Building back better for next time”, prepared by ISDR (2010), stated that leveraging networks and forging partnerships across players and sectors can cumulatively result in resilient cities and communities. It also highlighted the need for self-organizing structure rather than top-down approaches.

Local government’s role in disasters is primary and runs from well before the event in planning to the last of the recovery efforts. The importance of local government’s choice to support the health and well-being of the local business community could not be clearer. The vision, voiced from the top of institutions, must be carried throughout the structure so that it can inform all aspects of what government does and become inherent in the culture of the institution itself. In this way, business

resilience, for start-up firms through large businesses, can be enhanced. Not engaging the issue responsibly will have deleterious effects – a lack of well-paying jobs, little innovation, greater vulnerability, and community weakness and deterioration.

It can be seen that the local government holds almost all authority in Turkey in terms of disaster management. Local governments play only a supporter role with some matters such as preparation for disaster, disaster planning, and disaster response. Authorizations related to disaster are given to governors and district governors who are the representatives of central government within the frame of "decentralization" principle. The most important matter for local government units is how much the amount of the share they will be paid by Provincial Bank. This frame determined for local governments makes municipalities unwilling about the precautions regarding disasters and participation to disaster planning activities drudgery. However, one of the important factors of disaster management is local administrations. One of the most significant powers of local administrations related to disaster are the ones regarding zoning (Gülkan & Duygu, 1998). However, although zoning Law No.3194 shows similarities to strengthening of local authorizations and democratization of developed countries, it also shows lack of insight that local governments in Turkey were not ready for this reform in terms of technical staff, infrastructure and understanding.

3.4.1. Locality History of Turkey

Even though "regulations on the organization and measures to be taken in terms of civil defense in regard to citizens" dated 1966 and "the principles of voluntary participation to the civil defense services" dated 2000 seems to be as good efforts for participation of local actors to disaster management system, these attempts did not give the desired effectiveness and these efforts did not resemble any change and progress for the next 15 years. On the other hand, Turkey does not show any sufficient commitment to UNISDR to which Turkey has actually attended in international arena, or World Bank based events and declarations. As noted before, since Hyogo Framework for Action (2005), it has been emphasized that disaster

cannot be solved with a reactive approach and that mitigation can only be served with participation of local. This matter was taken into consideration and some efforts were given, however, the centralized structure put into order with establishment of AFAD, without giving any credit to those efforts for evaluation. The main goal of this one-headed system was to eliminate the chaos of multi-headed management and fasten the coordination.

Bozkurt, who was another name discussing the social dimensions of disasters in Turkey, interpreted the social context in Turkey leading to destruction in 1999 earthquakes as the result of an incomplete modernization, lack of rationality, lack of accountable state and accountable politicians (1999). He links this with the authoritarian culture in Turkey resulting in a lack of strong civil society and citizen initiative to call authorities to account for their decisions (Bozkurt, 1999).

The oldest organized local actor in Turkey, also the one responsible in terms of material now, is Red Crescent. It was established in 1868 as Ottoman Wounded and Sick Soldiers Charity and its name has changed through history: The Ottoman Red Crescent Association (1877), Red Crescent Association (1923), Turkey Red Crescent Association (1935), and Turkish Red Crescent (1947). Today 31 Red Crescent Braches are managed by Red Crescent General Directorate. The responsibility of the Turkish Red Crescent is provide essential needs such as food and clothing to disaster area (Ozanbardakçı).

In general, the activity of non-governmental organizations gain speed after two major earthquakes occurred in 1999. The volunteers who arrived instinctively to disaster region played active role in search- and -rescue and recovery operations, encouraging voluntary works. After this, activities of organized voluntaries, both individual and institutional, have gained pace. For instance, all of major universities have encouraged their students about participating in search- and -rescue and aiding operations. However, only few of these initiatives have lasttill today due to lack of institutional structures which are required for sustaining this acceleration (İsmep, 2006).

3.4.2. Locality as of today in Turkey

As can be seen from the legal and organizational scheme of Turkey, the disaster management system, which is based on "earthquake" only, does not take any proactive measures into account. The most apparent proof of this is the Earthquake Strategy plan 2012-2023 prepared by AFAD. Emergency disaster provincial directorates who take this plan as reference has started prepare plans for their provinces. Ankara Earthquake Strategy Plan is one these plans. In general, this plan consists of three parts: learning earthquakes, earthquake safe housing and structuring, and dealing with effects of earthquakes. In every part, responsible organizations, related organizations, coordinating organizations and the realization period are indicated. Briefly, discussed matters are about collecting and processing rough data on earthquake, collecting information on durability of buildings against earthquake, improving educational activities related to structure quality, and rising awareness of the community about earthquake. In this strategic plan, the statement of "understanding and language unity will be established between administrators related to disaster and emergency management and decision-makers" bears a great importance. To accomplish this, a glossary was planned to be published in 2012-2013. However, this glossary has not yet published; instead, the "ANNOTATED DISASTER MANAGEMENT GLOSSARY" was published by AFAD in 2014. It draws attention to that the duties assigned to Provincial Disaster and Emergency Directorate by this document, having no detailed coordination scheme since it is a strategic plan; require a significant capacity and training. Because the plan is still in effect and the process still continues, the plan cannot be criticized or developed.

Local organization structure of the disaster system of Turkey consists of local extensions of AFAD and municipalities. To better understand the situation of Turkey in terms of locality, these two actors along with other voluntary structures defined by law based on volunteering should be assessed in detail.

3.4.2.1. AFAD

The response system of AFAD in case on a disaster is best reflected by the AFAD Disaster Response Plan (2014). In this plan, disasters are classified according to aid

that will be needed for recovery. The organizations are listed as responsible or supportive organizations. As shown below, all of the organizations that forms the coordination scheme are ministries in case of a disaster requiring national and /or international aid. A local government, private sector, media, universities, non-governmental organizations and community, on which our thesis focuses as locals, does not have any part in this scheme.

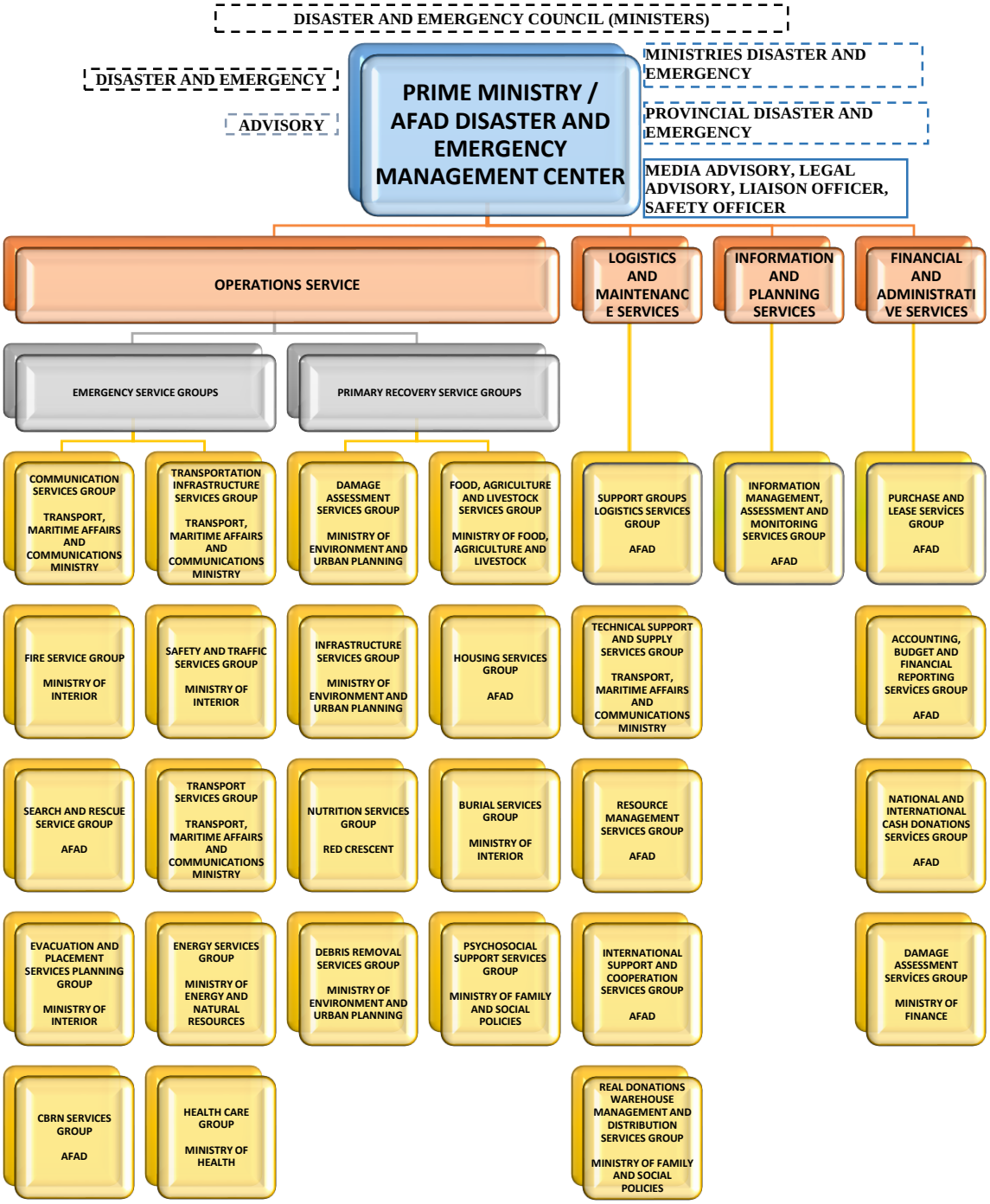

Figure 28. National Disaster Response Organization

Source: TAMP, 2014

Evaluating the figure in detail, there are many contradictions. For instance, while international aid and collaboration is under the responsibility of AFAD, donation, warehouse management and distribution services group is under the supervision of Ministry of Interior. Taking that the needs of society will be provided from these warehouses into consideration, coordination should be from one point in order to facilitate a fast and effective recovery. On the other hand, in emergency services group, the evacuation, which is the most important part of recovery process, is under the responsibility of Ministry of Interior. In case there is an inconsistency in the plans, Ministry of Urban Development steps in. Even though this is taken into consideration, conferring the responsibility of evacuation to Ministry of Urban Development is challenging. The most crucial requirement with evacuation is to know the place well. The roads may be blocked or heavily damaged. In this case, alternative routes will be best known by local governments and should be determined with aid of civil society teams.

As indicated by Balamir (2013), Turkey has been ignoring the international movements constituting the basis of disaster management. In addition to that a participatory model is not followed with management; the locals are totally isolated from the process. Yet, researches show that approximately 85-95% of the survivors of disasters are rescued within the first 24-48 hours following the occurrence of disaster (WHO, 2015). The great share of this rate, indeed, is due to locals. Both victims and first responders are the people who live in disaster region. This fact is taken into consideration seriously in some countries such as United States and Japan. United States has district patrols since 1993, which were first constituted in Los Angeles, and these groups are trained by Federal Emergency Management Agency (FEMA). A group consists of 10 citizens and has responsibilities of panic reduction, first aid, search and rescue, food supply. Similarly, the Japanese Disaster system defines duties for citizens other than their daily jobs. These two examples will be analyzed in detail in proceeding sections.

As stated before, the process AFAD will follow is specified in Disaster Response Plan. The local actors as discussed in this plan are analyzed below.

Local Level Coordination Unit

The coordination at local level is conducted by governor along with deputy governors and İAADYM being in contact with the Prime Ministry/AFAD and support units in this coordination are press secretary, the governor's legal representative, contact person and security officer under the chairmanship of governor/deputy governor. It should be noted that all provincial directorate are administrated by governor.

Provincial Disaster and Emergency Coordination Council

IAADKK (Provincial Disaster and Emergency Coordination Council) comprises of provincial director of disaster and emergency, garrison commander, Mayor, general secretary of the special provincial administration along with provincial directors in charge of the service group and other provincial administrators needed (as substitution for Provincial Rescue and Emergency Aid Committee). Duties:

- ✓ Providing examination of the provincial disaster response plan, and in case of acceptance, submission to Presidency along with the assize for approval;
- ✓ Preparation and approval of operation plans of provincial services group;
- ✓ Integration of service group plans to provincial disaster response plan;
- ✓ Conducting disaster and emergency preparations or getting them prepared and identification of precautions;
- ✓ Adjudication of local-level event type plan and preparation of it or getting it prepared;
- ✓ Conducting prevention works for the risks due to critical facilities or getting them prepared;
- ✓ Preparation of trainings and inspection of applicability of plans to practices;
- ✓ In case of disasters and state of emergencies, evaluation of data, identification of precautions, execution of provincial disaster response plan;
- ✓ Meeting at least twice a year under the chairmanship of governor; and
- ✓ In case of disasters and state of emergencies, meeting at the provincial disaster and emergency management center without waiting for instructions.

Provincial Disaster and Emergency Management Center

It functions according to 7/24 working principles under the chairmanship of governor of deputy governor assigned by the governor.

For basic services indicated in national level intervention organization chart will be constituted at province level in the same way and the services will coordinated by the governor deputies. Intervention organization chart related to provincial level is given in Appendix-2. Responsibilities of IAADYM are specified in Disaster and Emergency Management Centers Regulations.

District Disaster and Emergency Management Center is established and district response plan is prepared, if deemed as appropriate by governor, in districts needed.

Response Management at the Local Level

National Disaster Response System model consists of PRIME MINISTRY / AFAD AADYM and BAADYMs and IAADYMs. The Ministry, services groups established at institutions and organizations level will prepare "Service Model" in National Service Group Plans coordination and preparation of which they are responsible for. These sub-models will constitute the components of national disaster response system. The relationship between the service groups created at the national level and service groups created at the local level is execution of function of support for local, i.e. disaster region. In order to provide a standard nationwide, local disaster response management will be prepared by nationally as a single model. Disaster response management system at national and local level is shown in Figure 28. Since the national response system is designed as a qualified support for local provided by national level, it is possible to establish and operate service groups in small provinces.

Level 1 and Level 2 response operations are executed by governor or deputy governor responsible for IAADYM on behalf of the governor at local level. Deputy Governors will serve as service coordinator in services established.

Response operations a Level 3 and 4 are executed by the governor. Support for Level 3 and 4 operations will be provided by service groups in the province support groups, AFAD field support staff, field support teams of national service groups, Red Crescent, Ministry of Youth and Sports Disaster and Rehabilitation Volunteers, employees provided by Turkey Business Association according to preparation protocols and plans prepared by NGOs.

NGOs that are volunteers for response operations will be coordinated by solution partner of national service group main at national level and service coordinator of the service group at local level.

Mobile first detection teams are established at disaster region within IAADYM, which comprise police, gendarmerie, military units, IAADM and other public institutions' staff. All of the data gathered from the field is put together information tracking desk and shared with Prime Ministry AADYM.

AFAD designates a senior official of the AFAD to serve as governor support and consultant in disaster region and enough number of field support personnel to serve as supporter and consultant for service groups.

A Deputy Governor is assigned for each service as service coordinator. One or more deputy governors may be assigned for services group under services according to the importance and extent of the responsibility of the service. This is clarified in planning stage and reflected to the plan. Press secretary, legal representative of governor, contact person, and security officer will aid the governor. International Support and Collaboration Service Group and International Cash Donation Services Group are not included to operations at provincial level. 112 emergency call centers established in provinces constitutes the core of "Emergency Services Department Communication Services Group" for IAADYMs. 112 emergency call centers are the very first units for establishment of connection in case of a disaster and coordinate communication operations if communication system fails.

3.4.3. Municipality

Article 53- The municipality prepares necessary disaster and emergency plans and crew and equipment according to the characteristics of its region in order to prevent or mitigate fires, industrial accidents, earthquakes and other natural disasters. In preparation of emergency plans, coordination is established with other emergency plans at provincial level, if any, and related ministry, public institutions, professional institutions, universities and other local administrations are asked for their opinions. Necessary precautions are taken according to these plans in order to provide education of the public and joint programs may be carried out with governments, institutions and organizations indicated in paragraph two. Municipalities may provide aid and support to other regions beyond its own boundaries in case of fire or natural disasters.

The governmental institutions operate in local level shows a power conflict between governorship and municipality by the responsibility of disaster and emergency plan preparation. Moreover, although transfer of all of the authority at local level to governor with AFAD law seems to be a localization effort, the governor is assigned by the central government and governorship is an institution to which the responsibilities of central government are shifted. It is quite challenging to accept that the governorships are the only authority that is in charge of management of disaster whose origin is totally physical and also has no authority on city planning. On the other hand, the experience of municipalities on matter such as contracting resistant buildings and helping disaster victims is much better even disaster management is not mentioned within their responsibilities. In addition, the municipalities have a strong accountability against the locals and also closer to them since they are elected by the citizens and get their powers through devolution. Passivating such a local administration does not comply with the decentralization, which forms the base of HFA, and shows that the multi-stakeholder approach does not involved even within governmental institutions.

3.4.4. Volunteerism and Non-Governmental Organizations in DRM

Although content of non-governmental organizations can be various based on their business sectors and organizational forms, they have four common features; non-

profitability, independency (autonomy), voluntariness and having a vision and principle (Leaves & Limbs, 2005). If there are permanent employees, they can be paid and income generating activities can be carried out by NGOs, however, they are not allowed to distribute that money to their members (Seyyar & Adalı, 2004).

The notion of "civil society" has a range of contemporary meanings, but has generally been used to describe a society or space consisting of sustained, organized social activity that is non-state, non-market, and is distinct from the family or individual (Cohen and Arato 1992; Pharr 2003). In this definition, civil society encompasses a range of voluntary groups, such as nonprofit foundations, charities, nonprofit organizations (NPOs), and nongovernmental organizations (NGOs). It is larger in scope than only considering either civic groups or the nonprofit sector alone, as both more narrowly incorporate participatory organizations and are sometimes limited to public service groups (Hall 1987; Bestor 1999). However, civil society does not include government bureaucracy, political parties, the family, and market sector groups such as labor unions, trade associations, or professional associations (Cohen and Arato 1992; Pekkanen 2006). NGO is used in an international context to refer to non-profit, voluntary citizens' groups which are organized on the local, national, or international levels and not directly affiliated with the government. NPOs are sometimes used in a broad sense as an umbrella term referring to both NGOs doing international work and groups working domestically (Fernando and Heston 1997).

Autonomy, i.e. independency of non-governmental organizations (NGOs) from political power, means that they are not governed by the government according to its mission. The most distinctive property of non-governmental organizations is volunteering. The NGOs, which is shaped solely by public awareness, are voluntary structuring comprising individuals that come together without any governmental pressure. Autonomy refers to a structure to which no one is forced to participate and blamed for participating.

The main goal of NGOs is to provide an informed public participation by increasing public support which is currently weak against official authority. NGOs prioritize

social aid and solidarity spirit and the most important characteristics of NGOs is being helpful organizations (Pekmezci et. al., 2004).

The role of volunteer organizations at every step of disasters requires cooperation and unity of language within these organizations and relationships with community, and integration with a common disaster management (Firik, 2006). The unity of language is especially crucial in case of an international aid which plays a great role in the relief process of a disaster that requires international aid. The language here refers not only to the physical language we speak, but also line of vision towards disaster management.

Individual and organized volunteers have a great importance in every step of an extensive disaster management. Thus, NGOs and volunteers should improve their relationships with public institutions which have the power of disaster management and the place of NGOs and volunteers should be clarified within disaster management and regulations. In this manner, every voluntary organization expected to play an important role in every step of disaster management should be addressed as an NGO. Since the development and problems of voluntary organizations are similar to those of NGOs in our country, it is necessary to evaluate the problems regarding NGOs immediately and solve them (Ural et. al., 2010).

Although their missions are very similar to each other, there are differences between NGOs due to organizational form, capacities and institutional dependencies and the extent of their contribution to relief operations is large. Community Emergency Response Team (CERT), District Voluntary Firefighters, Civil Defense Volunteers, Disaster Mitigation Teams, Community Disaster Volunteers, Neighborhood Disaster Volunteers.

3.4.4.1. Community Emergency Response Team (CERT)

Community Emergency Response Teams comprise citizens and are informed about the measures related to disaster management, which should be taken and sensitized against disasters, educated as needed, equipped with the necessary means,

strengthened in terms of facilities and capabilities needed till professional teams arrive to the disaster area, and organized (Çakacak, 2008).

3.4.4.2. Fire District Volunteers

The citizens living in the disaster zone are the very first responders before professional firefighters and Civil Defense teams arrive. Therefore, local citizens should be organized and educated about extinguishing fires and rescuing works, and the expert personnel of firefighting units should be trained about fire safety, extinguishing and cooling and these trainings should be controlled (Kadıoğlu, 2008).

3.4.4.3. Civil Defense Volunteers

Civil Defense Services are performed according to Civil Defense Law No.7126 and "Law on the Organization and Duties of the Ministry of Interior" No.3152 (www.aliaga.gov.tr). "Regulation of Participation Principles of Volunteers to Civil Defense Service" is put into effect in 5th May 2000 in order to allow voluntary citizens and organizations participate in search, rescue and relief activities in coordination with civil defense elements in case of disaster or war.

Law enforcement personnel who will participate in Search and Rescue activities should be trained along with the Civil Defense Organization. Annex-8 of Civil Defense Law says that voluntary citizens and organizations can participate in civil defense services (Kadıoğlu, 2008).

3.4.4.4. Community Disaster Volunteers (TAG)

The duties of Community disaster volunteers in case of a disaster can be listed as: helping officials and the expert teams, preventing malicious person and behavior, determining the citizens affected by the disaster directly or indirectly, encouraging solidarity, helping those who come for aid, participating in recovery works, designing disaster risk possibilities in the neighborhood before the disaster, participating in reconstruction and remediation activities (Aydın, 2011).

3.4.4.5. Neighborhood Disaster Volunteers

Neighborhood Disaster Volunteers usually consist of about 50 volunteers. This team is the first responder to a disaster before any professional team arrives. When professional search and rescue teams arrive in the area, these volunteers' help and support them. Some of the duties of Neighborhood Disaster Volunteers are; providing training, hardware and organization, strengthening resources and capabilities in response after disasters, strengthening cooperation and coordination with professional teams, raising awareness of the community in the neighborhood about measures against disaster risks, raising social sensitivity, providing first responders after a disaster (Mag, 2012).

3.4.4.6. Disaster Risk Reduction Teams (AZAT)

Disaster Risk Reduction Teams are formed locally and consists of citizens who are equipped with knowledge, skills and equipment for disaster response at where they live or work. These teams are preparing according to Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP). In addition to disaster response, disaster mitigation is the other field in which these teams are expected to participate (İsmep, 2006).

The first respondents in many disasters don't train emergency personnel, but rather local residents and neighbors. Many actions are spontaneous. When volunteers are untrained, or their actions uncoordinated, they may actually cause harm to themselves by entering collapsing buildings or they may impede organized rescue work, by blocking access roads. These kinds of malfunctions are frequently seen in Turkey.

3.4.4.7. Volunteering in Turkey

A study conducted to civil initiatives that worked in Marmara Earthquake relief phase by Turhan (2005) showed that although civil initiatives have various structural characteristics the commonalities are; having strong interaction with communities all the time, having expertise, experience and cooperation with other civil actors in an

emergence and easily work with international organizations. They also stated that there is an emergence for "a continued campaign to further raise the awareness". Moreover in Review Conference of Marmara Region, it is stressed that insufficient coordination and cooperation between governmental and NGOs', limitation of the legal system, slow and inefficient intervention to region because of absence of policies and plans about disaster preparedness, problems in communication with other actors are the main reasons why this tragedy happened. Today when we look at the new political framework and institutional arrangements, we see that disaster preparedness plans still not prepared, and also there is still a power converges like both DEMD and municipality has right to prepare disaster preparedness plan. Moreover, the same problem about job distribution in an emergency to the local actor still is missing. As mentioned before in DEMD response plan, in local level the duties and responsibilities are given to only ministries and governor. Private sector is in the support unit however still the duties are not described. To have efficient local disaster management, government needs to improve governance. To give duties to local actors will increase accountability. To increase coordination, it is needed to establish local platforms like national platform established by DEMD 2011. To better understand what do we mean by National Platform, we need to go back to Hyogo Framework for action (2005) at which national platforms first introduced. National Platform is described as ''A generic term for national mechanisms for coordination and policy guidance on disaster risk reduction that are multi-sectoral and inter-disciplinary in nature, with public, private and civil society participation involving all concerned entities within a country.'' (UNISDR, 2009). A particular emphasis of the HFA is the need for multi-stakeholder involvement and national coordination to reduce disaster risk. Specifically, it recalls earlier recommendations and UN resolutions in asking countries to set up institutional mechanisms (National Platforms) for disaster risk reduction. A National Platform for DRR can be defined as a nationally led forum or committee of stakeholders able to serve as an advocate of DRR at different levels of engagement. It can provide coordination, analysis and advice on priority areas requiring concerted action through participatory processes and should strive to become a coordination mechanism for mainstreaming DRR into development policies, planning and programs. It can foster the development of a

comprehensive national DRR system appropriate to each country guided by the Hyogo Framework.

Civil Actors at Marmara Earthquake

The scholarly work preceding the Marmara earthquake mostly focused on government failure that turned a natural disaster into a social one since the Turkish state neither had the capacity, nor an appropriate plan to manage a crisis of this intensity (Jalali, 2002; World Bank, 1999).

Many scholars and practitioners criticized the performance of public agencies due to lack of slow and inadequate response and relief operations (Boduroğlu, 1999; Jalali, 2002; World Bank, 1999; Kubicek, 2002; Bakir and Boduroğlu, 2002), inadequacy of response plans in all levels of government (Boduroğlu, 1999; Erkoç, 2001), high levels of corruption among government officials that obstructed the enforcement of building and safety regulations which dramatically contributed to the high number of human losses (Istanbul Technical University, 1999; Özerdem and Barakat, 2003; Middle East Technical University, 1999; Kubicek, 2001), and highly centralized and top-down perspective on disaster management (Karancı and Aksit, 2000; Ergunay, 1999).

During recovery period, because of lack of policy and preparedness plans, there existed slow and late intervention. Further, because of unwillingness of local and central governments in collaboration with civil initiatives, an authority gap has come out. One of the most important reasons behind this unwillingness is until the 1999 Marmara earthquakes, civil initiatives did not have any accountability among the actors of the society. In addition to this, there was no legal support for them. But for the participation of civil initiatives to disaster management processes, after the changes at the 2nd section, 8th paragraph in the Law of Disasters, there is now an expression that opinions of civil initiatives can be taken into account while the ministry prepare disaster plans and determine the strategies at written regulations (2001).

Balamir presents a similar, but stronger criticism. In his view the system produces fatalism by in several ways excluding the public from responsibility. Especially, he attacks the disaster law's guarantee to carry the economic burdens induced by disasters. Instead of applying a pro-active strategy through emphasizing mitigation measures prior to disasters and rewarding pre-disaster attempts to minimize damages, the weight is put on post-disaster reconstruction. The fact that the state assumes all responsibility for rehabilitation, regardless of whether building codes etc. have been followed, enforces this tendency, since it reduces the incentives for individual mitigation efforts (Balamir, 1999).

While the involvement of Civil Society Organizations in response operations is a progress with regards to the development of Turkish civil society and disaster management system, the interaction of the CSOs and public organizations were far from being constructive following the earthquake. In some instances, state officials closed down the NGOs depots for donated goods and threatened to turn off electricity if the administration was not transferred to them (Jalali, 2002).

The Ministry of Public Works and Reconstruction refused to give permission to the Turkish Association of Architects and Civil Engineers to continue its voluntary operations in the inspection of damaged and destroyed buildings (Özerdem & Jacoby, 2006). The Ministry of Health filed charges against the AKUT (a search and rescue team with high levels of public support and popularity), for not having proper authorization (Özerdem & Jacoby, 2006).

The Turkish political culture that stresses authority over citizen empowerment and participation is another important factor that limited the operations and coordination efforts of the NGOs. As Heper (1985) argues, Turkish state elite typically distrusts civil society and believes that an uncontrolled civil society would produce social divisions. On the other hand, there are various reasons for integrating the CSOs to the formal disaster management system.

On local levels, civil initiatives are becoming increasingly active in disaster planning as well. Since 1999, they have kept growing in Turkey. They are usually closer to the grassroots culture than government bodies, so their plans focus on individual action on a community scale. For instance, the Turkish Red Crescent Society is developing its own response plans and community education curriculum in several locations nationwide.

Local universities and research centers hold the most professional knowledge, techniques, and equipment in a country. They also can gather the most detailed information by doing direct surveys. Hence, when governments deal with a specified field like seismology and policies responding to earthquakes, the assistance from academic circles is very helpful. Academic institutions are closely coordinated with all levels of governments in seismic research and planning.

Considering the coordination and collaboration between public institutions in the region, it is frequently expressed by the NGOs that the communications gap between Van Municipality and Governorate affected the post-disaster period. The reasons for this gap can be listed as municipality being isolated from DEMD provincial coordination center after 23 October earthquake and staying in the background during damage-assessment studies and the restructuring of the city even it was the most appropriate actor knowing the city best.

The services provided in terms of short and medium-term programs, such as improvement of family-community relationships, psycho-social support for children and women and assistance to elderly and disabled, carried out by Ministry of Family and Social Policies were insufficient. It was noted by women's organizations that there were significant loss of time in gathering necessary permissions for accessing tent cities and aiding activities. These latencies resulted in failing with designation of regions requiring needs assessment and priority actions, and obstructing the determination of women’s conditions. In addition, these organizations were not able to utilize the experience of institutions which monitor the needs of region and have a great knowledge of the area (Tüsev, 2011).

Interviews with local NGOs shows that the public institutions did not treat all NGOs equally and political situations at the region affected the relationships between NGOs. Some of these NGOs stated that the relationships that were improved before the earthquake positively affected their works in region. The lack of equal and transparent mechanisms which defines public-NGO relations complicated the effectiveness and efficiency of activities of NGOs and negatively affected the number and extent of the aids of which disaster victims would make use.

To the rise of the state and the more formal components of the voluntary sector, which have supposedly crowded out informal voluntary activity and left it without a clear social function (Salamon and Sokolowski, 2000). A struggle is therefore said to be raging between two epic foes: the organized structures of social existence, chiefly the state and social organizations; and the self-organization of individuals, with the former presumably emerging victorious, at least in the more developed regions of the world and true citizen self-organization holding its own, if at all, mainly in the less developed regions not yet spoiled by modern life (Turhan, 2005).

For an effective disaster management system in collaboration with civil initiatives, the consecutive phases of disaster management process; namely mitigation, preparedness, emergency response, recovery and reconstruction, could be taken up and developed (IEMS, 2002).

To support civil initiatives and to provide accountability to them, there have to be partnerships. Firstly, this can be undertaken by central government. According to their interests and sectors, with relevant governmental organizations, civil initiatives should take part in various projects (National Earthquake Council, 2002).

3.5. REMARKS

In this chapter, the disaster history of Turkey is analyzed along with their consequences. In order to come up with a good reasoning, the legal process of Turkey is assessed. Following are the critique of laws according to the periods. In the final part of this chapter, disaster management system in terms of local actors is analyzed. In the next chapter, a conclusion for the thesis will be provided. In

addition, in the light of above definitions and analyses, the path that should be followed in order to create a better disaster management will be explained.

CHAPTER 4

CONCLUSIONS AND RECOMMENDATIONS

It is accepted by the world that the disasters that are not predictable cannot be managed by reactive approaches which have a linear point of view since the consequences of disasters are non-linear and create a domino effect. In this manner, the proactive disaster management approach which has been and is still evolving since early 1990s has been adopted by many countries. Two basic emphases of this perspective whose foundations rest to HFA are the concept of governance in disaster management and enforcement of local capacities with this foundation. UNISDR, which is one of the most important institutions leading the disaster management movement globally, carried out a number of significant events in order to create awareness in the world. On the other hand, Turkey has tracked these progresses closely and made its commitment legally several times. Footprints of this commitment are analyzed through legal and organizational charts.

Firstly, emphasis is laid on risk, which is the most important component of disaster. Even though there is not a definite explanation for risk, the extent and versatility of the term risk is better explained with different definitions made by different fields. The argument of that disaster is a complex adaptive system is supported in literature review, explaining the existence of organizations occurred by itself by a triggering event like disasters. Moreover, the key events of this new perspective and discourses emerged from these showed the types of permutations in disaster management in Turkey.

In addition paradigm shift have started after Kobe Earthquake (1995) with establishment of UNISDR (1999) and continued with the Hyogo Framework for

Action (2005), Incheon Conference (2009) and Sendai Framework (2015) in global agendas, emphasized on participation, accountability, transparency, permissibility, disaster governance, capacity building at local level, community involvement and civil initiatives. Establishment of AFAD and its local administrations, National Platform, Law of Transformation of Areas under Risk No.6306, and Turkish Catastrophe Insurance Pool/ DASK preparation of Disaster Response Plan of Turkey is key changes made with the light of paradigm shift from proactive governance based DRM.

Localization concept examined through governance aspect, with transparency, predictability, participation and accountability attributes of good governance. Types of decentralization like de-concentration, delegation and devolution showed how local institutions get their power. It stated that most effective type of decentralization with subsidiarity principles is delegation. In addition, the focus made on Turkeys' decentralization efforts showed that although there were positive attempts to create balance between centralization and decentralization, the legislations converted to more central than before. For past 50 years the theories dealing with unpredictable events unite in complexity theory. This theory gave a different understanding to disaster phenomenon with description of self-organizations. Self-organized disaster relief teams which consist of all local actors, is expounded with complex adaptive systems. However, it should be noted that trust levels in the environment provided by good governance directly affects effectiveness of teams.

In the conducted study both legislation and institutional analysis divided sections based on important changes. The recent and most important change in disaster management system is the establishment of AFAD is an important breaking point for Turkish Disaster Management System, studies showed that there are still inadequacies in both UDSEP 2012-2023 and Turkey Disaster Response Plan. The lack of local involvement, centralization of powers, ineffective role distribution and difficulties of participation in system is listed as major outstanding issues. Exclusion of local actors, such an event that directly affect locals, is not a condition to be accepted so legislation and institutional framework has criticized with this respect.

Although local governments and other local actors are the key actors in disaster governance, any defined responsibility or role found in legislation. Even after the definition of "mitigation" is recognized by AFAD, the disaster related laws still mostly related reconstruction and emergency coordination. Furthermore, a pre-disaster vision and management strategies are very weak. Moreover, like most of the laws both Law of Transformation of Areas under Risk No.6306, and Turkish Catastrophe Insurance Pool consist of deficiency across stakeholders and need renewals.

Local governments have been kept away from being active actors in disaster management with the effect of centralized disaster management and classic earthquake engineering in Turkey. Although there are a number of reasons for this, the most important factor is that responsibilities of local governments, especially municipalities regarding disaster management are not defined explicitly in recent laws. Although Municipalities have the responsibility of disaster and emergency of plans, even after decentralization of some powers, the effectiveness of content of these plans should be examined. Besides, it is quite problematic that the disasters are degraded to "crises" with emergency plans. Even the matter is assessed in terms of emergency management, municipalities should ask ministry, public institutions, professional formations, universities and other local governments for their opinions during the planning period in order to better facilitate governance.

As it mentioned repeatedly in our study, local actors are more than local governmental institutions; NGOs', media, academia, business and community is key agents of system. With good governance these actors forms self-organization in an emergency by being highly dynamic, having inter-action & inter-relation and inter-connectivity. In the study these kinds of self-organization examples given like United States, Mexico and especially Japan. Building self-organization efforts at Marmara (1999) and Van (2011) Earthquake is examined with the help of relevant reports. In both cases, except some civil initiatives efforts, there were disorganized and personal efforts away from self-organization. The main reasons for this lack of environment of trust, concerns about not being protected and recognized by law, lack of awareness

which cannot be obtained without active participation and lack of coordination. Moreover, as in AFAD legislation and prepared plans, NGOs are suited into system based on volunteerism principle with an agreement; it blocks involvement of the new establishment right after the disaster.

On the other hand, to decrease disaster physical, social, economic disaster loss and improve disaster management system, multiple actions needed to be done in national and local level. The lack of institutional and legislation compatibility to governance, which is constituted with transparency, predictability, accountability and participation characteristic led to the insufficiencies to cope with disaster in Turkey. From the arguments of institutional and legislation analysis, some possible suggestion is devoted in the following section. First of all, directly or indirectly disaster affects a large number of people and institutions in the long run. To manage phenomena begins with understanding the characteristic of it. When examining the legislation, it is concluded that there is a need for description of disaster management for to create a unity of language within all actors. As stated before Turkey is quite active in international disaster management area, however, efforts to fulfill the responsibilities brought by a declaration signed under the signature, has already weak. To strength ties, AFAD should prepare an action plan across different timescales, with targets, indicators and time frames that prepared by a multi sectoral stakeholders to share responsibilities, as appropriate to Turkeys' national circumstances and systems of governance, it should be noted that such a group can only be created by providing legitimacy and encouragement for participation. Furthermore, as responds of disasters are categorized by it is the level of help needed, the respond and support actors, which are covered and constituted at the Turkey Disaster Respond Plan, should be revised into a unique team for each level. While doing this, subsidiarity should not be a ceased to be a condition of EU should be integrated into the system as a vision to empower local authorities, as appropriate, through regulatory and financial means to work and coordinate with civil society, communities and indigenous peoples and .

Top to bottom approach disaster management should be revised by looking best examples of UN/ISDR. AFAD which is established in order to minimize disruptions

in coordination should clearly define the tasks of other actors. In addition to that disaster response and recovery needs to be perceived as a system level collective action rather than the responsibility of provinces or districts. The partnership with nonprofits at the central, provincial, and district levels can significantly contribute to the effectiveness of response and recovery operations which need to be supported by laws. On the other hand, preparing laws to prevent earthquake damage should be only a phase of disaster management; the whole system should be designed in flexible or robust governance characteristics that are to have a high level of exploration. A broader and a more people centered proactive approach to disaster risk should be developed.

Since a disaster strikes the cities it is essential to identify the local actors by laws. Excluding any stakeholder from the decision process decreases the participation and transparency. Local authorities should be supported by central authorities through financial support, reforms in legislation, cross-functional integration with relief agencies, responsibility, and perseverance. To give all the power to the Governor decreases the willingness of municipalities to disaster mitigation efforts. Furthermore, the right to make disaster management plans both the provincial directorate of AFAD and metropolitan municipalities create competition and intricacy. As they have different level of power distribution (governorship with de-concentration and municipality's devolution) plans should be made with collective action of the multiple governmental bodies. In addition, a local platform should be established with participation all local actors to build the knowledge of government officials a civil society, communities, media and academia, as well as the private sector, through sharing experiences, lessons learned, best practices and training and education in disaster risk reduction, group scheme showed in the figure below:

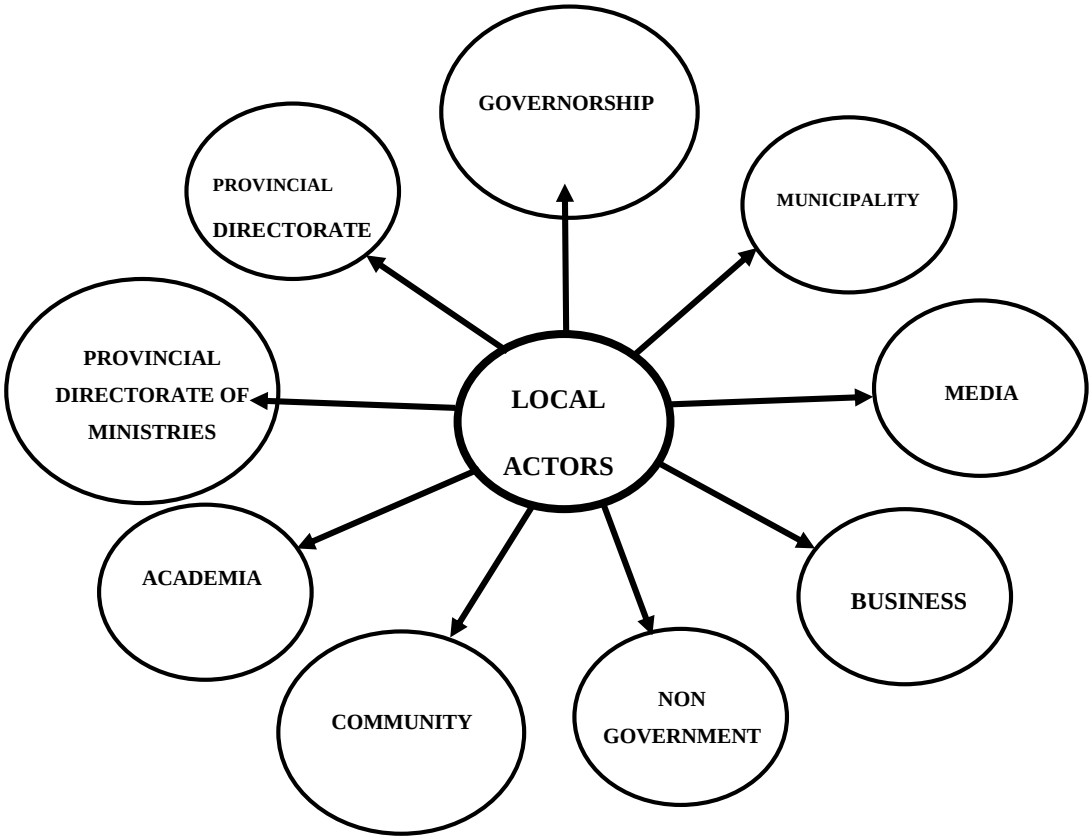

Figure 29. Local Actors

With the help of this platform, local actors should systematically evaluate record, share and publicly account for disaster losses and understand the economic, social, health, education, environmental and cultural heritage impacts. These platforms could give yearly or monthly report to The National Platform for being evaluated and monitored. Moreover; with the approach of "A university in every city", with subsidiarity view, academia, research bodies should focus on the disaster risk factors and scenarios, including emerging disaster risks, in the medium and long term, research for local application and support the interface between policy and science for decision-making.

With bottom up approach, we should focus on from most vulnerable to least. To increase awareness is the most crucial and hard responsibility of both local and central government however, as the municipalities are elected by locals. The inter-action and inter-relation between them is more powerful. Although the key component of disaster management stakeholder system is non-governmental

organizations, they have very few responsibility and duty identified by laws and related plans. It is especially important to have necessary agreements and coordination plan between NGOs and governmental bodies beforehand, if not they should have more freedom to react and respond in an emergency with a coordination of local respond team. In an emergency reaction time is very important; for decreasing time consumption, there should be local teams consist of both governmental professionals and local volunteers who are educated and trained periodically. As media is the fastest way to transport information to increase transparency of and participation to the system, both local and national media should be used and work with effectively. Raising of public awareness and understanding and disseminate accurate and non-sensitive disaster risk, hazard and disaster information, including on small-scale disasters, in a simple, transparent, easy-to-understand and accessible manner, in close cooperation with related bodies is unique duty of the media.

Although Turkey have been closely following changing policies, implementation of these policies, is not very successful in practice. Still Turkey tries to find a solution to a problem that is directly affects the locals with centralized mechanism rather than using power of localization. However, constantly updated and modified legal and organizational structure can be seen as efforts made in order to adapt good governance in disaster management. It should be noted that without involvement of all actors on a common ground in an environment of trust, any form of management will be fragile like a building which column had cut and doomed to be damaged at the first disaster.

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APPENDIX A

LAWS REGARDING DISASTER MANAGEMENT DIRECTLY OR INDIRECTLY

Official Gazette	Law No.	Laws	Urban Renewal	Disaster
08/09/1956	6831	Forestry Law		▪
15/05/1959	7269	Law for Reliefs to be done with Precautions to be taken due to Disasters Effective on Public Life		▪
30/07/1976	775	Law on Shanty	▪	▪
27/10/1983	2935	Emergency Law		▪
08/03/1984	2981	Zoning Amnesty Law	▪	
17/03/1984	2985	Mass Housing Law	▪	▪
09/05/1985	3194	Zoning Law	▪	
28/02/1998	4342	Pasture Law		▪
13/07/2001	4708	Law on Building Inspection		▪
22/01/2002	4734	Public Procurement Law	▪	▪
22/02/2002	4735	Public Procurement Contracts	▪	▪
12/03/2004	5104	North Ankara Entrance Urban Transformation Project Law	▪	
23/07/2004	5216	Metropolitan Municipality Law	▪	▪

04/03/2005	5302	Special Provincial Administration Law		
05/07/2005	5366	Law on Renovation and Protection of Deteriorated Historical and Cultural Assets and Usage of Them	▪	▪
13/07/2005	5393	Municipal Law	▪	▪
19/07/2005	5403	Soil Conservation and Land Use Law		▪
26/09/2006	5543	Settlement Law	▪	▪
06/03/2007	5582	Law on Making Changes on Various Laws Regarding the Housing Finance System	▪	
14/11/2007	5706	Law on Istanbul 2010 European Capital of Culture	▪	
28/11/2007	5711	Ownership Act (634) Amending Law		▪
17/06/2009	5902	Law on Organization and Duties of Disaster and Emergency Management Presidency		▪
04/07/2011	644 Decree	Decree on the Organization and Duties of the Ministry of Environment and Urban Planning	▪	▪

26/04/2012	6292	of the on behalf Forest Outside removed Location Law on Supporting the Development of Forest Villagers and Evaluation of Locations removed from Forestry Boundary on behalf of Treasury by Sale of agricultural land belonging to the Treasury	▪	▪
09/05/2012	6305	Disaster Insurance Law		▪
31/05/2012	6306	Law on Transformation of Areas under Disaster Risk	▪	▪

APPENDIX B

ORGANZIATIONS REGARDING DISASTER MANAGEMENT DIRECTLY OR INDIRECTLY

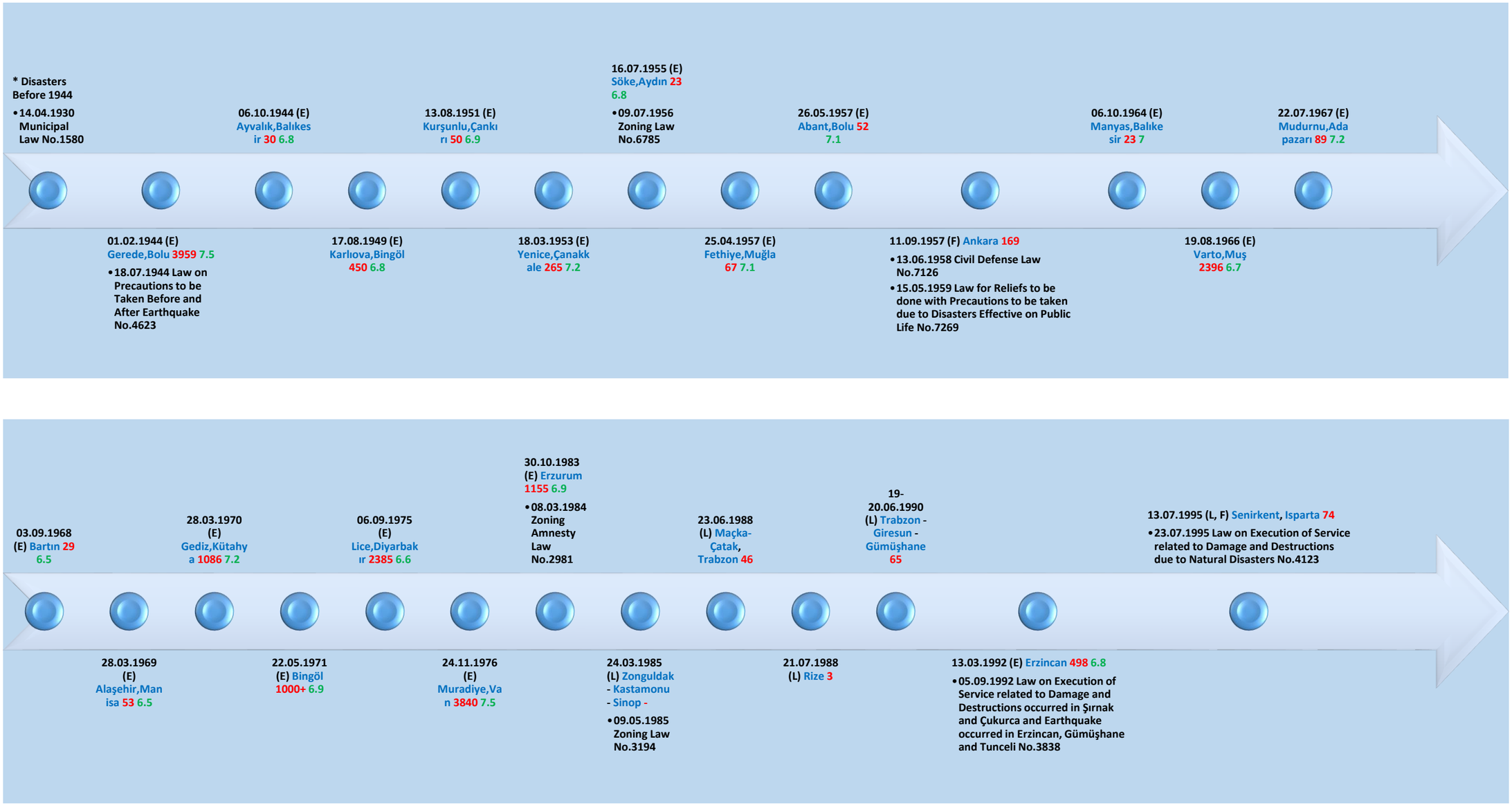
Governmental Organizations:
1. Prime Ministry
2. General Staff
3. Ministry of Interior
4. Ministry of Education
5. Ministry of Public Works and Settlement
6. Ministry of Health
7. Ministry of Transportation
8. Ministry of Agriculture and Rural Affairs
9. Ministry of Energy and Natural Sources
10. Ministry of Environment and Forestry
11. Ministry of Culture and Tourism
12. The Council of Higher Education
13. Prime Ministry, Undersecretary of Treasury (DASK)
14. Prime Ministry, State Planning Organization
15. General Command of Mapping
16. Boğaziçi University, Kandilli Observatory and Earthquake Research Institute
17. Turkish National Research Council (TUBITAK)

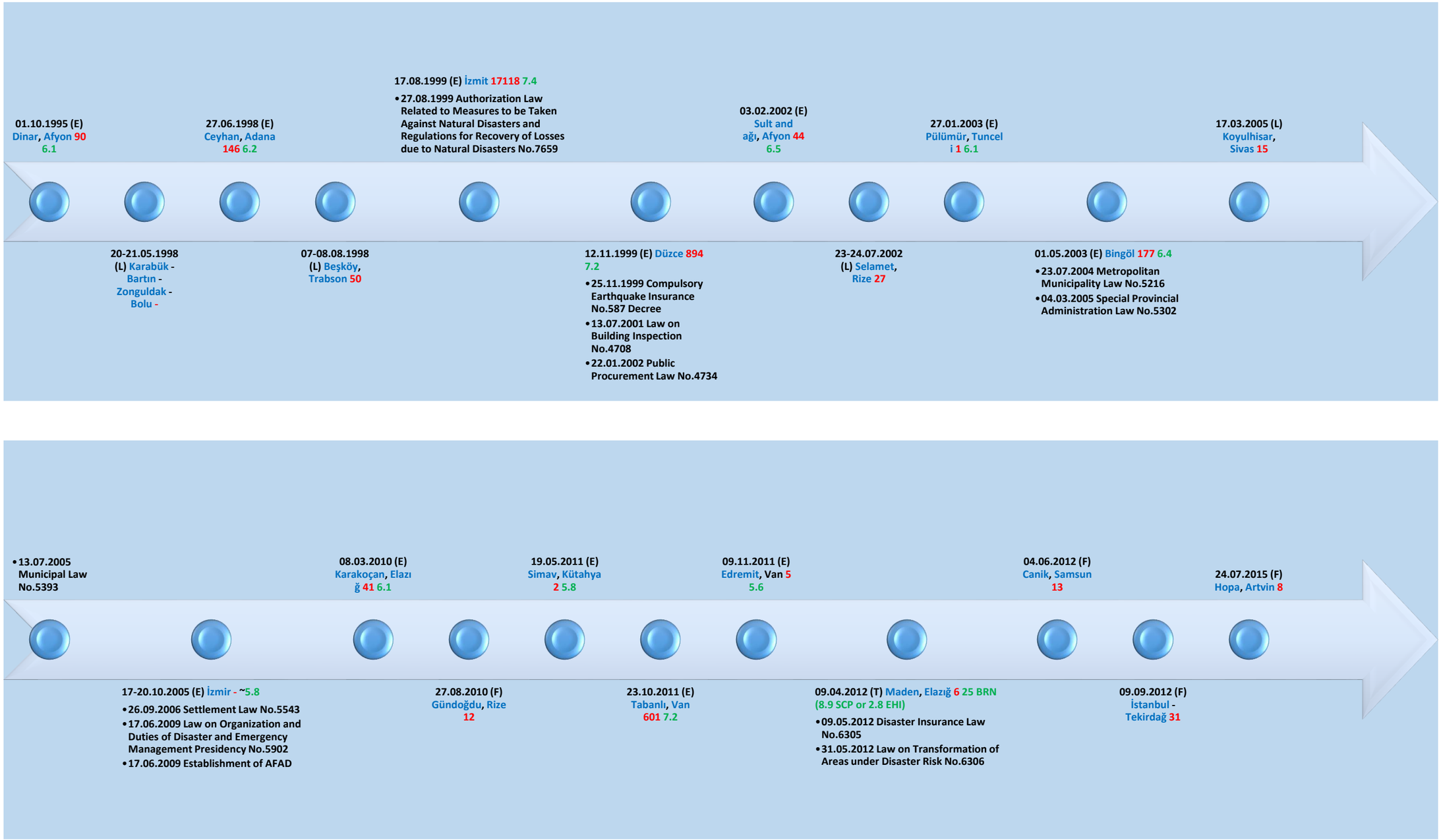
Non-Governmental Organizations and Professional Organizations:
1. Search and Rescue Association (AKUT)
2. Neighborhood Disaster Support Group (MAG)
3. Environment Foundation of Turkey
4. GEA Search and Rescue Group
5. Psychiatric Association of Turkey
6. Chamber of Geological Engineers
7. Chamber of Geophysical Engineers
8. Chamber of Civil Engineers
Universities:
1. Middle East Technical University
2. Istanbul Technical University
3. Karadeniz Technical University
4. Kocaeli University
5. Dicle University
Local Authorities:
1. Governorate of Istanbul
2. Governorate of Erzincan
3. Governorate of Kahramanmaraş
4. Governorate of Denizli
5. Governorate of Hatay
6. Governorate of BİngöI
7. Istanbul Metropolitan Municipality
8. Erzurum Metropolitan Municipality
9. Bursa Metropolitan Municipality
10. Municipality of Trabzon
11. Municipality of Giresun

12. Municipality of Manisa
13. Municipality of Afyonkarahisar
14. Turkish Union of Municipalities
15. Union of Governors
Private Sector:
1. Turkish Industrialists' and Businessmen's Association (TUSIAD)
2. The Union of Chambers and Commodity Exchanges of Turkey (TOBB)
3. Turkish Contractors Association (TMB)
Media:
1. Prime Ministry, General Directorate of Press and Information
2. Turkish Association of Journalists
3. Turkish Radio and Television Cooperation (TRT)
4. Anadolu Agency
National Association:
1. Turkish Red Crescent

APPENDIX C

RELATIONSHIPS BETWEEN DISASTERS AND RELATED LAWS





LEGEND: (E): Earthquake, (L): Landslide, (F): Flood, (T): Tornado, Black: Date, Blue: Location, Red: Number of deaths, Green: Magnitude

*** Table 6. Disasters occurred for the last 10 years before 1444:**

Date	Location	Loss of Lıves	Magnitude
04.01.1935	(E) Erdek, Balıkesir	5	6.4
19.04.1938	(E) Kırşehir	160	6.6
22.09.1939	(E) Dikili, İzmir	60	6.6
26.12.1939	(E) Erzincan	32700	7.8
15.11.1942	(E) Bigadiç, Balıkesir	16	6.1
20.12.1942	(E) Erbaa, Tokat	3000	7.0
20.06.1943	(E) Hendek, Adapazarı	336	6.6
26.11.1943	(E) Ladik, Samsun	4000	7.4

(The Author)

APPENDIX D

Table 7. Progress of Post-Disaster Relief Efforts in 1995 Kobe and 2011 Tohoku

Time taken for Relief Efforts	1995 Kobe	2011 Tohoku
Utilities Reconnected (gas, electricity, water)	6 months	1 week
Railway Service and Roads Reopened	7 months	4-15 days ("Operation Comb")
Phone Lines Restored	3 weeks	Radios distributed immediately, internet and phone service restored in 3-7 days
Housing Units Built	134,000 houses by 1999 (4 years)	Construction started in 8 days; 100,000 housed in 3-4 weeks
Bridges Repaired	14 months	1 week

Table 8. Comparison of Kobe and Tohoku post-disaster response from the Japanese government, NGOs, and volunteers

Response	1995 Kobe	1995-2011 Policy Changes	2011 Tohoku
Government Official Response	Slow: Delays before news was received and decisions made Ineffective: political conflict at National Land Agency , delayed decision making Did not cooperate with NGOs or volunteers SDF Mobilization Delayed	1995: Amendment of 1967 Disaster Countermeasures Basic Act 1995: Deputy Chief Cabinet Secretary for Crisis Management 1995: Act on Special Measures for Earthquake Disaster Countermeasures 2001: Minister of State for Disaster Management (Cabinet Office) to chair Central Disaster	Faster: National Committee for Emergency Management convened immediately More Effective: Numerous ministries and departments were involved in

	(5 days late), poorly prepared. Only 9,000 troops dispatched.	Management Council Overall reform for greater government efficiency and accountability: Ministries reduced from 22 to 12.	response and targeting different sections of relief effort Actively cooperated with NGOs and volunteers SDF mobilized instantly (within minutes), well prepared. More than 100,000 troops in 3 days.
NGOs Activity	Few present: <20 recognized by UN Small: most unable to handle more than a few people Poorly Organized: no formal coordination with volunteers, government or other NGOs	1998: NPO Law easing corporate status and tax break regulations - Cooperation with Government Ministries (MOFA) - Reorganization of JICA - ODA Reforms Promoting MOFA-NGO cooperation 1998 onwards: Subsidy Funds for NGO Projects and Grant Assistance for Grassroots Projects increased 2000: MOFA launched 3 funding schemes (NGO Consultation System, NGO Management Council, NGO Research Group on Evaluation of International Cooperation)	Many present: >100 recognized by UN Larger: As result of more funding, NGOs can attract more members Better Organized: formal coordination with volunteers, government, and other NGOs.

Volunteers	More than 1.3 million individuals Unregistered and Unprepared Poor organization Inefficient and disorganized work Short-term No government recognition or assistance	1995: National Social Welfare Council 1996: Policies for Volunteer Facilitation - Increased volunteer network-NGO collaboration 1996: Designated Disaster Reduction and Volunteer Day	500,000 within first 4 months, 1 million in a year Registered and Prepared Good organization Effectively coordinated work Long-term Government Representatives for Volunteering Appointed (Tsujimoto and Yuasa)
Foreign Assistance	70 Offers REJECTED	Ministry of Foreign Affairs (MOFA) given primary responsibility in dealing with bi-lateral offers of aid NGOs recognized for strengths in aid implementation (Leng, 2015)	170 Offers ACCEPTED