PLANNING METHODS FOR GUIDING URBAN REGENERATION PROCESSES IN HIGH-RISK AREAS

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ABSTRACT

PLANNING METHODS FOR GUIDING URBAN REGENERATION PROCESSES IN HIGH-RISK AREAS

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Cities in Turkey are great risk pools. Underqualified building stocks are the major components of such risk pools. For the mitigation of risks, 'engineering approach offers retrofitting of individual buildings as an ultimate method. However, this proposition has economic and legal difficulties. Instead, it is essential to develop new policies to focus on areas of high earthquake risk as comprehensive urban regeneration activities. This new policy requires new tools to monitor urban regeneration processes. It is obligatory to make comprehensive plans for high risk areas and to take low income groups into consideration in mitigation action plans. Comprehensive regeneration in existing districts could provide means and standards of safety not necessarily maintained by the retrofitting of individual buildings.

Potentials of regeneration processes are readily observed and practiced in Turkey as means of regulating urban regeneration processes, even if for purposes other than safety. Analysis of a set of regeneration projects selected from world experience indicates that current regeneration practice in Turkey is far from a comprehensive approach. Municipalities are fully empowered to designate regeneration areas and carry out redevelopment activities often providing increased densities on compensate for the costs. This has been reinstated in

the new draft law. Rather than a separate law, general regulation of regeneration could be accommodated in the Development Law 3194.

A special Law concerning regeneration could instead focus only on risk reduction issues in cities throughout Turkey. The identification of priorities for such regeneration processes could be made by the Ministry of Public Works and Settlement as the central authority, clarifying the scale and timing of each project. The implementation tools of urban regeneration and issues like authorization, responsibility, funding, and auditing could be determined in this special law. A new approach for urban regeneration is needed to describe organizational, participatory, financial framework.

Keywords: Urban Regeneration, Urban Risk, Risk Reduction, Earthquake Resistant Planning, Urban Regeneration Draft

ÖZ

YÜKSEK RİSKLİ ALANLARDA
KENTSEL DÖNÜŞÜM SÜRECİNE YOL GÖSTEREN PLANLAMA METOTLARI

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Türkiye kentleri yüksek risk göstermektedir. Bu risklerin başında niteliksiz kentsel yapı stoku gelir. Bu süreçte, risklerden sakınım için bazı çevreler "tekil-yapı güçlendirmeyi" kalıcı bir yöntem olarak ileri sürmektedirler. Ancak, bu yöntemin ekonomik ve yasal güçlükleri vardır. Bu çözümün yerine yüksek riskli alanlarda kapsamlı bir kentsel dönüşüm aktivitesi olarak yeni bir politika geliştirmek zorunludur. Bu yeni politika kentsel dönüşüm sürecini control eden yeni uygulama araçlarını da gerektirmektedir. Yüksek riskli alanlar için kapsamlı planlar yapmak ve değişik düzeylerdeki risk alanlarında yapılacak sakınım planlarına düşük gelir grubunu da dahil etmek zorunludur. Bu alanlarda yapılacak olan kapsamlı dönüşüm, tekil bina güçlendirme ile sağlanamayan güvenlik ve kaliteyi de beraberinde getirecektir.

Türkiye'de dönüşüm süreci güvenliği sağlama amacından uzaktır. Seçilen dünya örnekleri ile Türkiye'deki kentsel dönüşüm örnekleri analiz sonuçları, Türkiye'deki kentsel dönüşüm yaklaşımları kapsamlı dönüşüm anlayışından uzak olduğunu kanıtlamaktadır. Belediyeler dönüşüm alanını belirlemede ve yüksek yoğunluklarda yüksek ücretler ile telafi eden kentsel gelişimi tamamlamada tamamen yetkilidirler. Bu durum yeni Kanun tasarısında yeniden ele alınmalıdır. Dönüşüm konularını ayrı bir Kanun olarak ele almak yerine, 3194 sayılı İmar Kanunu'nda bir yönetmelikle düzenlenmelidir.

Türkiye kentleri için sadece risk azaltımına odaklanan özel bir yasa olmalıdır. Dönüşüm sürecinde önceliklerin belirlenmesi, her proje için zamanlama ve ölçek tanımlama konularının aydınlatılması merkezi yönetim olarak Bayındırlık ve İskan Bakanlığı tarafından yapılmalıdır. Yetkilendirme, sorumluluk, fon temini ve denetimi gibi kentsel dönüşümün uygulama araçları bu özel Kanun içerisinde açıklanmalıdır. Organizasyonel, katılımcı ve finansal çerçeveyi tanımlayan, kentsel dönüşüm için yeni bir yaklaşım gereklidir.

Anahtar Kelimeler: Kentsel Dönüşüm, Kentsel Risk, Risk Azaltımı, Depreme Dayanıklı Planlama, Kentsel Dönüşüm Yasa Tasarısı

To My Father

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TABLE OF CONTENTS

LIST OF TABLES

TABLES

LIST OF FIGURES

FIGURES

LIST OF ABBREVIATIONS

CBD	Central-Business District
CEIS	Compulsory Earthquake Insurance System
EMPI	Earthquake Master Plan for Istanbul
GAM	Goal Achievement Matrix
GDDA	General Directorate of Disaster Affairs
GMI	Greater Municipality of İstanbul
IDNDR	International Decade of Natural Disaster Reduction
ISDR	International Strategy for Disaster Reduction
JICA	Japan International Cooperation Agency
LUDA	Large Urban Distressed Areas
METAP	Europian Union, Mediterranean Environmental Technical Assistance Programme
METU	Middle East Technical University
NDC	New Deal for Communities
NGO	Non-governmental Organization
NTL	New Turkish Liras
SAR	Search and Rescue
SPO	State Planning Organization
UN	United Nations
UNDP	United Nations Development Program
UNDRO	United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISDR	United Nations Inter-Agency Secretariat of the International Strategy for Disaster Reduction
WB	World Bank
WW II	World War II
ZDP	Zeytinburnu Development Project
ZPP	Zeytinburnu Project Participation

CHAPTER 1

INTRODUCTION

> "It is necessary to make arrangements that provide the integration of the methods and approaches which take into consideration disaster risks with the structuring process and planning system to develop safe and livable settlements prepared for disasters all over the country.
>
> It is also necessary to provide a system which identifies risks; analyses disaster risks, develops alternative risk reduction schemes and forms disaster-development relation to achieve a modern disaster management system.
>
> It is obligatory to determine disaster risks, institutionalize risk reduction and integrate mitigation plans into the planning system with other legislation."
>
> *Referred from concluding declaration of 'Urbanization Council'*
> *May 2009*

Turkey represents a huge pool of 'Urban Risks'. One of the major components of such a large pool of risk is the underqualified urban building stock created by rapid urbanization, insufficient building policies. Some academics and Professional bodies offer retrofitting projects of individual buildings as an ultimate Method for safety. A distinct alternative approach is the comprehensive urban regeneration prepositions which focus on risk reduction activities to make an integrated city-level mitigation planning system and allow the collaboration of stake-holders. Due to the past experiences[1] on disasters it is obvious that new approaches which do not ignore the 'preparedness' have to be developed for disasters in our country by taking deficiencies and past experiences into consideration. The new approach in the 'mitigation step' has a meaning in case of that urban regeneration

[1] It is accepted that 1999 Marmara Earthquake is one of the devastating earthquakes of our country. It was really one of a rare kind of an earthquake.

process if it is integrated into all planning levels and urban risks are determined at the different levels in order to mitigate them. For that reason, the viability of comprehensive urban regeneration implementation as an alternative new approach in this study with the below mentioned aspects:

- participation
- social regeneration
- organization/stakeholders scheme
- earthquake based local urban regeneration model

There are two opposite visions related with earthquake risks and urban regeneration. One of these points of views focuses on only urban regeneration by ignoring earthquake risks in Turkey. It must be underlined the fact that urban regeneration implementations are not earthquake-oriented projects, these kind of projects are also based on 'rent-oriented' approaches. Another one concentrates only on the risks by ignoring the urban regeneration. Earthquake hazard studies in our country have not been shaped by the context of risk reduction; these kinds of studies have been implemented by random approaches For that reason this study is a scientific proof that shows renewal of the risky building stocks and reduction of earthquake risks can be melt in one pot if urban regeneration is used as an opportunity window.

Turkey: There is No Mitigation Approach…

In contrast to other countries, it was understood to take some precautions against disasters after 1999 Marmara Earthquake, but a comprehensive mitigation approach has not been developed yet. The arrangements as" earthquake insurance" and "building control law" have resulted in opposite inclinations with problems instead of creating a "mitigation culture[2]" (Balamir, 2006b). 53rd article of Municipality Law (Law No: 5272) with its irrelevant concept in 2005 and Disaster Draft of Law which has been came into agenda in

[2] This term refers to a "culture of safety and resilience at different levels" which is mentioned in Kobe Conference (First International Conference on Urban Disaster Reduction, January 22, 2005).

2006 focuses on traditional emergency facilities are the attempts done in our country which are not related with the new approach. Local and central authorities have no interference for the purpose of reducing the risks except a few positive efforts since 1999. On the other hand central authority closed the National Earthquake Council as if there is no risk for disasters. But, National Earthquake Council described the preventions and warnings about earthquake hazard. But other institutions about urbanization and disasters ignore mitigation; these institutions think that they are only responsible for emergency (CCP, 2007).

It is required that, Risk management System should be established, mitigation plans of the regions and cities should be prepared immediately in order to eliminate the effects of the natural disaster risks and the structural risks of the settlements. The problems of disaster risks can be solved with the "Urbanization Reform" by developing risk management models at different levels and improving the legislation and financial potential (CCP, 2007).

JICA and EMPI which are the comprehensive and pioneer attempts done in the most risky pool of our country -Istanbul- in spite of their deficiencies. In addition, three national reports[3] that are prepared for the strategies devoted to risk reduction and inevitability of urban regeneration policies for our country. Despite their deficiencies, these reports are the comprehensive and pioneer attempts which determine the urban mitigation processes (Balamir, 2006b). EMPI supports singular building strengthening, however, the plans which do not ignore socio-economic and physical conditions of the area should be done for earthquake resistant settlements and more safe buildings against earthquake and this plan should support the all upper scale plans as well as mitigation plans.

According to EMPI, below mentioned issues are the processes in order to crate more safe settlements against earthquake in Istanbul:

- current situation determination

[3] (1)'The National Strategy of the Reduction of Earthquake Losses' that is published by the National Earthquake Council in April 2002, (2)'The report of Earthquake Management Study Group in the 4th Economics Conference of Turkey' organized by State Planning Organization in June 2004, (3) 'The report of Earthquake Council of the Ministry of Public Works and Resettlement' in September 2004.

- technical studies(building analysis and consolidation)
- development strategies at residential settlements
- legal studies
- financial studies
- educational studies
- social facilities
- disaster and risk management

The emergency preparations and mitigation facilities should be handled in the same main target (Balamir, 2006b). At that point, the institutional responsibility of mitigation facilities has become important. Balamir (2006b) mentioned four basic deficiencies that have been observed nowadays in Istanbul in order to reduce earthquake losses.

- The studies developed in the concept of "project" by related foundations are the independent and partial attempts which deny other projects in the ideological manner.
- The attempts directly related with earthquakes have came into agenda in accordance with need of 'good stroke of business' manifestation, financial opportunities and coincidental facilities in stead of scheduled projects.
- Political accountability is insufficient for guiding mitigation preventions because of the fact that there is no institutionalized authority for mitigation. Scientific methods, legal and sanctioned implementation strategies should be developed in different levels of mitigation studies.
- There is no 'participational approach' in the projects and implementations with related sectors for risk reduction and mitigation.

As cited in Gökçe (2006), there is no national approach about mitigation planning (risk reduction) generally for disasters and especially in earthquakes in Turkey. Although, it has been understood that precautions about mitigation should be taken after 1999 Marmara Earthquake experience in our country, any institutional or legal measures have not been taken and comprehensive approach about mitigation have not been developed yet.

According to Balamir (2006b: 18-19), observations in Istanbul mitigation studies allow the identification of three distinct approaches: 'technical', 'market', and 'comprehensive urban regeneration' (See Figure 1)

1) The 'Technical Service Approach (Engineering Approach)' would be satisfied with retrofitting projects of individual buildings. This approach supports the idea of "buildings kill the people"; three conditions should be done for the purpose of single building strengthening. These conditions are as follows:

- Building strengthening regulation should be prepared.
- Unanimity of flat ownership which blocks the building strengthening should be discarded.
- Immovable and independent ownerships should be supported by effective financial credits in order to create demand in the new market for the technical strengthening team. However, the idea of 'the people who have money will be protected from earthquake risks" is ideologically unethical approach.

As cited in Balamir (2006d)'s another study engineering services in city-level mitigation can not be dispensed with this method. However, the retrofitting operations must be considered within the context of local planning requirements which should take place prior to building-level mitigation investments.

2) 'Market Approach' is an attempt for private sectors which provisions materials of early warning systems, seismic insulators, steel cages, emergency equipments for safe buildings. This approach also supports single building strengthening. Balamir (2006d) mentioned in his other study, that mitigation investments could only be a function of demand. Therefore introduction of mitigation products in the market like seismic isolators, steel bed frames, early warning systems, emergency devices, robust structures at safer locations, even insurance policies, and many others are essentially devices for the market to take promote mitigation.

3) According to 'Comprehensive Approach' city is defined as a system with its complex risk factors. This approach criticizes 'market approach' and 'technical

service approach' because of methodologies for determination of risky buildings and the ignorance of urban risk sectors[4] that are generated by the city.

Balamir (2006b: 18-19) determined two fields of action. Development of policies and implementation approaches which activate the huge parts of the society in all these risk sectors and integration of these sectors into the mitigation plans are the first action. The second one is the attempt of comprehensive regeneration implementations in the risky areas as it has been exemplified in Zeytinburnu. For that reason, scientific methods for identification of risky buildings in the risk pools and participants of all sectors that are directly related with risk factors are encouraged in 'comprehensive approach'.

Comprehensive urban regeneration and finance also support the infrastructure and transportation developments. In addition, more safe and more qualified urban textures will be built by urban regeneration projects (Balamir, 2006b:19). With this information in hand, constructional risks that are generated by the design factors will be eliminated during urban regeneration.

[4] Balamir (2006d) classified "urban risk sectors" as; Risks in Macro-Form and Growth Tendencies (settlement configuration alternatives)/Urban Fabric Risks (building height/proximity, plots, density, roads, car-parks, etc.)/ Incompatible Land-Use Risks (buildings and districts)/ Risks of Productivity Loss (industrial plants, SMOs)/ Risks in the Building Stock, Infrastructure and Lifelines/ Risks in Emergency Facilities and Lifelines (hospitals, schools, etc.)/ Special Risk Areas/ Special Buildings (landslide/flooding, historic buildings and environs)/ Risks in Hazardous Uses (LPG and petrol stations, chemicals, explosives, etc.)/ Open Space Deficiency Risks (emergency access and storage, temporary shelters)/ Administrative Incapacities (infrastructure/hardware, experts, training progs., etc.)/ External Vulnerabilities and Risks (accidents, terrorism, climatic extremes).

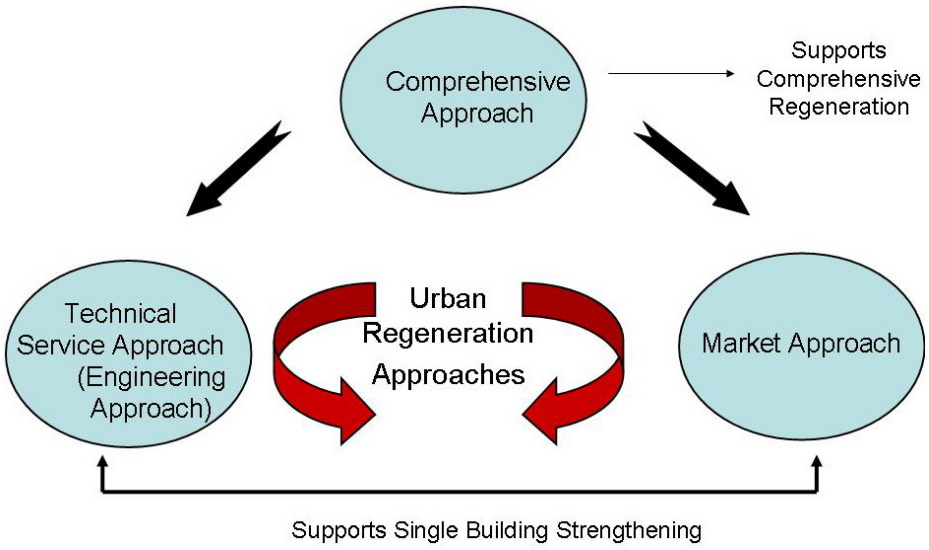

Figure 1 Urban Regeneration Approaches

(Source: This schematization is synthesis of reading: Balamir, 2006b: 18-19)

How about the world? - International Approaches-

Priorities for natural disasters have been changing between international foundations from the beginning of the 1990's. (See Figure 4) International foundations focus on the risk reduction and mitigation precautions (Balamir, 2006b). This approach is defined as prerequisite for sustainable development and effective global improvement.

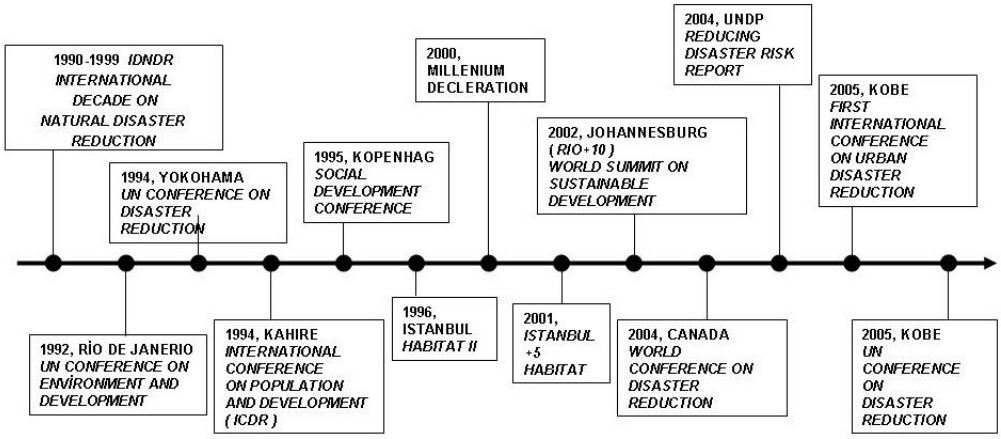

Figure 2 Historical Diagram of International Increasing Paradigm on Disasters

(Source: It is prepared for CP Studio Project in 2006.)

International increasing paradigm focuses on active efforts as risk reduction and mitigation facilities in the presence of probable hazards instead of reactive preparations as post earthquake relief (Balamir, 2006b). After 1992 Rio Conference, the terms “sustainability” and “participation” were added to this new regeneration approach, then, sustainable urban regeneration concept is developed. Four of five preferential aims which are determined in Yokohoma strategy have focused on risk determination and risk reduction processes in 1994 and the other aim is related with emergency processes (Balamir, 2006b).According to another mitigation effort, Hyogo Action Plan (2005-2015);

- Mitigation efforts will be an integrated part of different levels of development programs.
- At different levels of institutions, procedures and capacities will be developed in order to create a social resistance.

Kobe Conference intended to promote a strategic and systematic approach for the purpose of reducing vulnerabilities and risks (UNSDR, 2005). Balamir (2006b) summarized fundamental topics of Kobe Conference (First International Conference on Urban Disaster Reduction, January 22, 2005);

- Political and institutional dedicated strategies (risk reduction policies/acts...)

- Risk determination (National hazard maps, resistance capacity)
- Risk information Management (National information system, research Centers...)
- Risk Management implementation instruments (financial instruments)

According to Balamir (2006b) the new approach concentrates on institutionalization of mitigation planning and financial support for implementation because of the fact that it has more productive reasons than emergency facilities. This new approach, which aims to improve implementation instruments of resistant social development and take precautions at national, regional and local levels, underlines the fact that institutionalization and implementation of the mitigation planning requires regular financial support. The strategies moved towards community based urban regeneration and neighbourhood renewal. In the view of the fact that this dominant approach introduce that mitigating disaster risks is an effective process for 'preparedness'. Hence 'preparedness' has a new meaning of living with risk and learning how to cope with disaster risks while waiting for devastating disasters.

The most evident aspects regarding urban planning are the proliferation of new instruments and the new use of more traditional ones. Such instruments have interactive and contractual action procedures, in close relationship to the territory and to local actors. Also they take the form of an explicit search of dialogue among the various intervening sectors (LUDA Handbook E-2 Report 2002:38).

Under the light of above mentioned issues, countries which are coherent with this new approach develop new strategies that are related with mitigation facilities regarding disasters about laws and institutions. According to Balamir (2006b) international foundations and institutions have changed their view of opinions and priorities on natural disaster risk reduction since 1990. He indicates that these international foundations have also been studying for an effective global improvement program for the purpose of taking

"risk reduction" and "mitigation" precautions[5] against natural disasters, which are the predominant requirements of the sustainable development.

1.1. Problem Definition

Rapid urbanization in Turkey and unauthorized growth of the building stock in cities have often ignored the safety requirements and risks of natural disasters. For that reason, settlements throughout Turkey represent large pools of risks. Retrofitting of individual buildings is a current approach that the engineering profession has been lobbying for; however, it is essential to develop new policies for the next decades. An alternative strategy could be the comprehensive regeneration of existing districts in cities, as well as in areas of high natural hazard risks. In most high-risk areas, the strategy of single building strengthening as advised by some authorities; however, the engineering approaches is far from solving the problem of safety. Because, there is a technical deficiency in developing qualified person in that area. For that reason, Turkish Chamber of Civil Engineers has no responsibility of controlling the retrofitting projects of individual buildings. On the other hand, even if the building is strengthened, the building which are located next to it (whether it has a report for safety against earthquake) may collapse over the retrofitted one as we experienced before[6]. Moreover, while waiting for a devastating earthquake, living in a retrofitted building creates psychologically negative effect on the people for the problem of safety against earthquake.

Comprehensive urban regeneration on the other hand is likely to contribute to the problems of illegality, low-urban standards and environmental design, besides safety deficiencies.

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[5] 1)USA Mitigation Law 2000, (2)New Zealand –Civil Defense and Emergency management Law 2002, (3)South Africa Disaster Law2002, (4)Australia COAG Report 2002, (5)England Civil Mitigation Law 2004, (6)Canada -Public Security and Risk Prevention Projects Development Program, 2004, (7)Greece -Civil Protection Law 2003, (8)Japan Disaster Prevention Law 1961, (9)EU ESPON Natural Hazards Risk Survey, 2005.

[6] This new is online at: http://www.milliyet.com.tr/2002/02/04/yasam/yas02.html last accessed date: 16.04.2009

Besides, there are economic, social, legal opportunities for urban regeneration processes as well as physical renovations.

This study has two focal points in order to explain the planning methods for guiding urban regeneration processes in high-risk areas. One of these points is “risk”. Another focal point which leads this study is “urban regeneration”.

1.1.1. Turkey is a Large Pool of Urban Risks

Turkish cities have high risk pools of natural hazards. Unauthorized and inadequate building stocks, rapid urbanization, inefficient national housing policy may be as the components of such large pool of urban risks.

1.1.2. Underqualified Urban Building Stock

Underqualified urban building stocks are the major components of the large pool of urban risks. Such buildings have been created with improvement plans and insufficient national policies of housing stock. The health conditions are not as well as the physical conditions. Besides, physical conditions of the building stock, there are problems caused by design issues.

1.1.3. Retrofitting of Individual Buildings

Retrofitting of individual building is offered as an immediate response from some engineering environs and academics. According to Abdullah İlleez[7] the control of earthquake safety and retrofitting of a building comprises three progressive stages.

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[7] There was an interview on 14 April, 2009 with Abdullah İlleez who is CE BSc / Member of Board at ARTI Proje.in his office, ARTI Proje. This interview was about the process of the retrofitting of a building.

1. Evaluation of the building: This stage consists of two sub-stages

Data Collecting

Firstly, static project of a retrofit of an existing commercial building is prepared in this stage. The quantity of iron used in the construction is identified. Secondly, the outside and inside photographs of building are taken.

Analysis

Special computer programs (SAP 2000, Probina) are used in order to evaluate the data whether they are compatible with the '2008 Earthquake Code'. If the building is not compatible with the criteria of ARTI Proje (See Appendix D) which are prepared in accordance with '2008 Earthquake Code', then, it is noted in the reports. This is the end of the first step.

2. A retrofitting Model

A retrofitting model is suggested in this stage. (steel frame, screening). Re-evaluation of the building with suggested model is predicted by computer programs. If suggested model is sufficient for '2008 Earthquake Code', the next step begins.

3. Detailed Projects

This step consists of detailed financial reports, architectural renovation projects, and mechanic electronic renovation projects.

Since retrofitting of a building is an interdisciplinary work, such a retrofitting project requires almost 15 people (architectures, civil engineers, geological engineer, geotechnics engineers, building technicians…) who will work at field and at office.

The project of a retrofitting of individual buildings is not controlled by Turkish Chamber of Civil Engineers, unless 'control of the project' is requested specially. The buildings of Ziraat Bank are controlled by Turkish Chamber of Civil Engineers because of the individual demand.

With the new flat ownership law, it is easy to strengthen the individual buildings. If 4/5 of the ownerships accept the changing, then retrofitting project of the individual building can be done. At the previous law, it was obligated to comprise all the ownerships for any constructural renovation. This legal arrangement may open the doors for retrofitting of single buildings.

For that reason a national pro-active policy should be improved to evaluate the opportunities of the regeneration while ¾ of the budget is spent on retrofitting operations in public buildings.

1.1.4. Comprehensive Urban Regeneration

Urban regeneration should be suggested as a solution for the illegal building stock, disaster risks, social iniquities of Turkish cities.

Since urban regeneration is a long term process approximately 10-15 years association of local partners sharing aspirations for regeneration of an urban area and willing to take a strategic, long term view; furthermore, the regeneration area-based approach should be integrated within a plan for sustainable urban development (not individual projects);

1. People always expect safety of their lives. A comprehensive urban regeneration project has an advantage of securing the life.
2. People always want to live in a comfort. A well-designed comprehensive urban regeneration project will bring comfort.
3. Responsibilities will be shared democratically in a well designed collaboration of university, local authorities and private sector.
4. Social issues of a local community as cultural values, habitudes, income levels will be taken into consideration with a comprehensive urban regeneration project.
5. A comprehensive urban regeneration project which combines elders or having obstacles, youths, women and children will be successful with the participation of academicals, local communities, and universities. For example following social projects should be implemented in a comprehensive urban regeneration project.

   a) <u>for elders, having obstacles and youths</u>

   There is a growing population of elder people most of whom are living alone in the society, because they do not want to quit the comfort of their lives. Besides, they have to reconcile with the facts of the life. For that reason, elders who want

to live alone comfortably should benefit from the high energy and labor force of youth. Small living areas may be planned that have high accessibility to all social services with a comprehensive urban regeneration project. Thereby, new jobs may be created for technical qualified and well educated youths and elders or having obstacles may be serviced more comfortable and have high standard qualities of life.

b) for women

Social projects that have the advantage of financial contribution- for especially women- should be developed like child care or hand made works without going out home.

c) for children and youths

More accessible and more controlled areas may be planned for playing education in a comprehensive urban regeneration projects for children and youths (playgrounds, sports field, parks, kindergartens, etc…)

1.1.5. Intentions

In order to support the comprehensive urban regeneration implementations, it is suggested to add below mentioned products in to the current legislation:

- participation
- social regeneration
- organization/stakeholders scheme
- earthquake based urban regeneration model

However, community should be redeveloped in terms of urban design and urban management in order to cope with the legal, economic and social problems. For that reason, Turkey will have to focus on the regeneration of cities rather then strengthening existing building, which is a waste of time. The idea of “legal instruments and new urban policies

should be produced in order to facilitate the physical and social regeneration" presents the most challenging issue of urban planning. The news[8] about buildings to be pulled down without earthquake also supports that issue. These detected building stock may be determined as 'death machines'[9] because they can be easily collapsed without any earthquake has occurred.

1.2. Aim and Scope of the Study

The scope of this study is determining the planning approaches at risky areas and discussing urban regeneration processes which have been intended to be shaped with the current legal regulations about regeneration in Turkey. It is thought that there should be a bridge between regeneration and the legal regulations while changing the city. It is intended to develop a guide for reducing the natural disaster risks and minimizing the natural disaster lost with utilizing urban regeneration implementations. For that reason urban regeneration implementations which are used as a tool in order to remove the problematic spaces of the city should aim reducing urban risks and built earthquake-resistance cities. In this respect, the opportunity of the pre-post disaster planning of the safe cities is created. This study underlines the importance of the risk reduction based -urban regeneration implementations at the same time.

Consequently, urban regeneration and urban risks are the main focuses of this study. Therefore, this research therefore aims to provide a comprehensive urban regeneration policy at high risk areas within a legal framework and inform local governments, investors, landowners, policy makers through a framework of urban regeneration issues in high risk areas.

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[8] This news is online at: http://www.milliyet.com.tr/2007/02/23/guncel/axgun01.html ,
last accesed date: 20.09.2008

[9] This term is used in the report of the Earthquake Management Study Group in the 4th Economics Conference of Turkey (2004).

1.3. Research Method

The methodology of this study will consider a theoretical framework of urban regeneration and risk. Literature survey that includes legal framework, related laws and recent arrangements about urban regeneration process and risk will be a part of this study. For that reason reports, related academical and various arguments on the recent arrangements on urban regeneration deriving from the review of researches databases will be checked for that study.

1.4. Structure of the Study

This thesis is discussed within following chapters. Graphical presentation of the structure of the framework and logical flow of this study are given below (see Figure 3):

Chapter 1 serves the general argument of the thesis in the problem definition. Turkey represents a large pool of urban risks. One of the reasons of such risk pool is underqualified and illegal building stock. Some academics and engineers offer retrofitting of individual buildings as an immediate solution for safety of the built areas. On the other hand, comprehensive urban regeneration method could be served as a suggested solution. In order to reduce natural and urban risks, a strategical earthquake-based urban regeneration model should be identified regarding legal process for the purpose of clarification of the determination of regeneration area, partnerships and financial tools. In addition, aim and scope of the study and research methods are also discussed.

In Chapter 2, urban regeneration issues and different resistance mechanisms to urban regeneration are discussed. In addition, opportunities of the decreasing earthquake hazards with “planning” process will be discussed in the last title of this chapter. Moreover, “Alternative Methods for New Approaches of Urban Regeneration” will be mentioned by thinking urban risks with urban regeneration. Lastly, the terms of “urban regeneration” and “risk” are defined and the requirements of urban regeneration are discussed in order to mitigate the urban risks at high risk areas and the history of the urban regeneration process

with the changing context of it, ordinary and extraordinary reasons for urban regeneration will be discussed.

3rd Chapter of this study will discuss national policies and mechanisms that shaped the role of planning while reducing the urban risks. Aims and goals of the earthquake resistant planning, the roles of the central and local management upon urban regeneration are discussed in chapter 3.

In Chapter 4, urban regeneration experiences from both the world and Turkey are compared according to implementation tools and mechanisms which are used in the projects in order to minimize the effects of natural disasters. Legal process of urban regeneration after 1980 will be underlined and the evaluation of the last regeneration draft will be handled in this chapter of the study. Fundamental criteria of urban regeneration at high risk areas will be determined in this chapter as a guidinance in the planning methods.

In Chapter 5, legal processes of the planning policies and disaster risks of Turkey are discussed. Risk reduction in development plans will be discussed as well as the deficiencies of the current development system. In addition, a suggested "Urban Regeneration Law" will be handled with basic parts. Lastly, the evaluation of the recent regulations concerning disaster risks is investigated in chapter five.

Chapter 6 is the final chapter of the thesis which contains a synthesis and findings of previous chapters of the research.

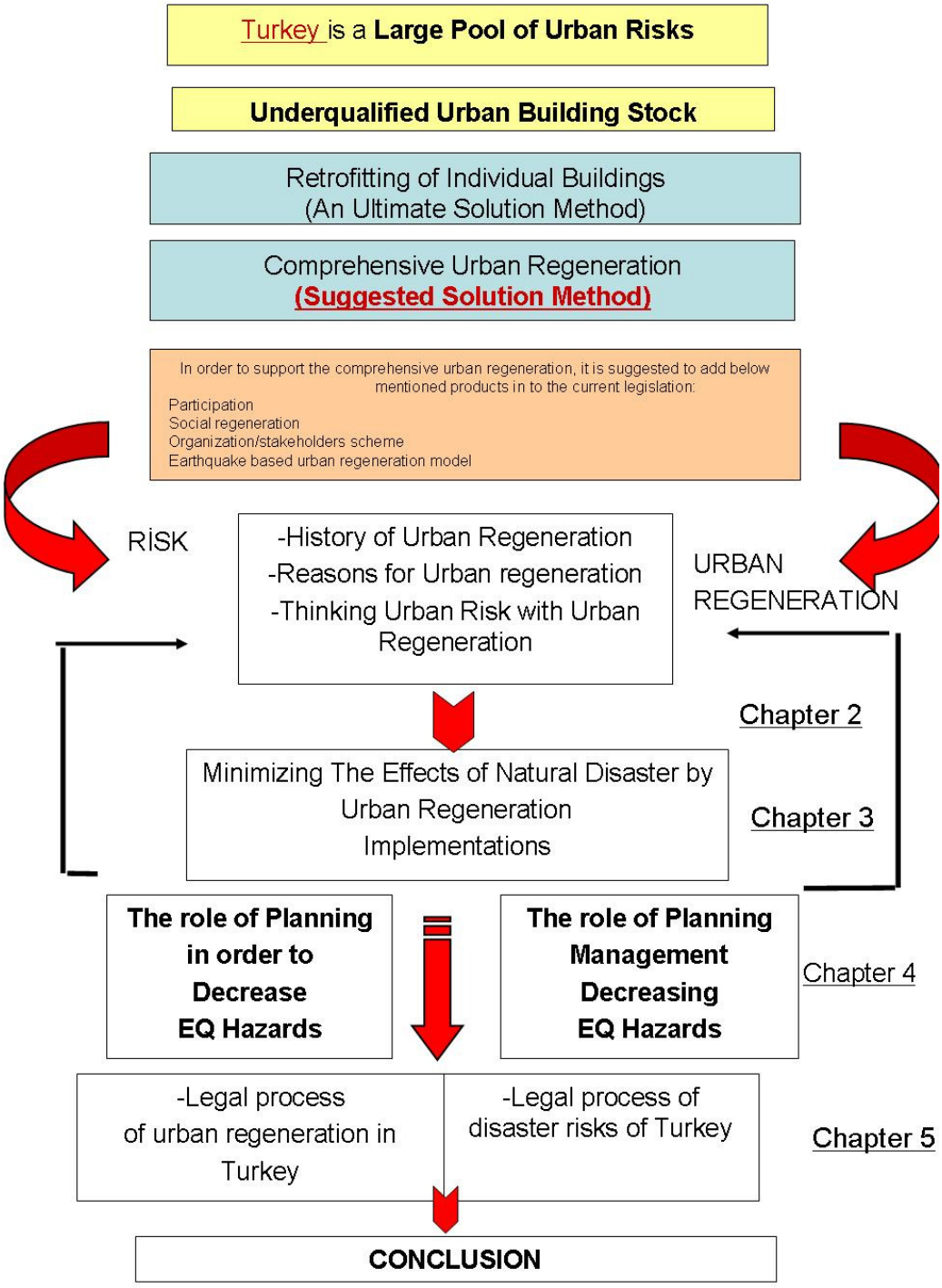

Figure 3 Structure of the Study

CHAPTER 2

URBAN RISKS IN TURKEY

Risk is generally formulized (Balamir, 2001: 29) as:

Risk = (Hazard x Vulnerability) – Mitigation

In this conventionally expressed notation, this formula is useful in establishing the logic of the concepts used in this project. In relation to the ESPON definition, "**hazard**" represents a potentially damaging physical event, natural extreme events, technological accident or phenomena caused by human activity that can lead to threats and damages among the population, the environment and/or material assets. **"Vulnerability"** is defined as the degree of fragility of a person, a group, a community or an area towards defined hazards-(coping capacity). **"(Disaster) Mitigation"** is a proactive strategy to gear immediate actions to long-term goals and objectives (ESPON, 2nd Interim Report, 2003:17-19).

In relations with the basic definitions that have been discussed above, "Risk" is a combination of the probability or frequency of occurrence of a defined hazard and the magnitude of the consequences of the occurrence, for that reason the risk and the other concepts are different from each other.

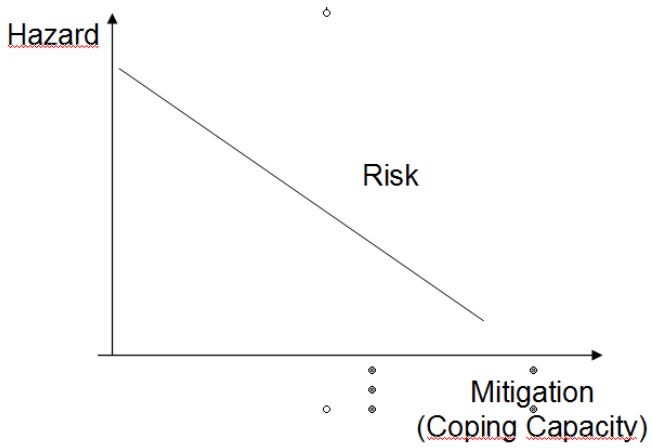

Figure 4 Relations of Hazard, Mitigation and Risk in a vulnerable system
(Source: Kıral, 2009)[10]

Risk identification includes an assessment of community exposures, hazards, and vulnerability (ADPC 2000). Risk analysis estimates the significance of identified risks on the community's capability to achieve its defined goals and objectives (ADPC 2000). Gaps in understanding the nature of the hazard and uncertainties in expected hazard impacts lead to less accurate risk assessments.

Risk is the exposure to the chance of injury or loss; risk may be expressed mathematically as the product of the probability that a loss will occur times the value at risk (exposure) (ADPC 2000). Three interrelated factors combine to describe risk:

- Values at risk of potential hazard impacts (Exposure Inventory)
- Likelihood that a hazard will occur,
- Vulnerability of exposed values to the likelihood of injury, loss, or destruction.

[10] This figure was composed by Ömer Kıral.

Though all these definitions are expressed for the concept of "risk", the most comprehensive definition about risk concept is determined by ISDR as following (International Strategy for Disaster Reduction, 1994).

"The probability of harmful consequences, or expected losses (deaths, injuries, property, livelihoods, economic activity disrupted or environment damaged) resulting from interactions between natural or human-induced hazards and vulnerable conditions" (ISDR, 1994).

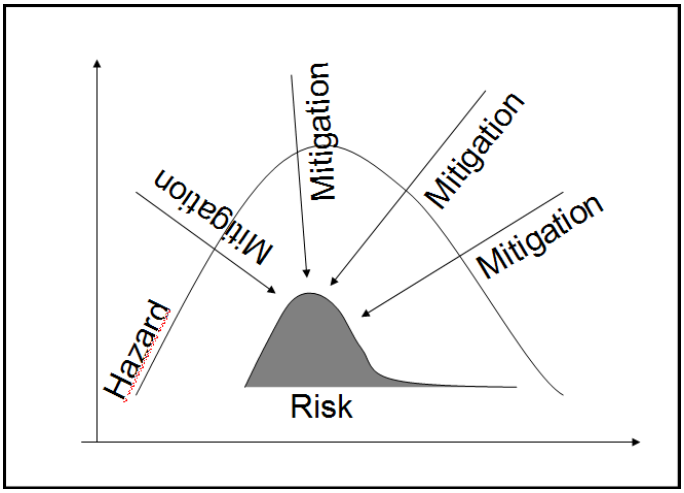

Figure 5 The Definition of Risk

(Source: Kıral, 2009)[11]

As cited in Balamir (2006b: 19); there are various attitudes and response in the perception and assessment of the risks. He identified two of them. According to '*Medusa'* risks, society has a tendency of overestimating the hazards and acts suddenly and unrestrainedly instead

[11] This figure was composed by Ömer Kıral.

of searching the ways of coping with these hazards. In contrast to this attitude, "*Cassandra"* risks always underestimate the hazards which are indefinite.

According to Balamir (2006b: 19); high risk areas are the sensitive areas for '*Medusa* '. Moreover, he indicates that the projects which encourage and guide local partnerships for the comprehensive urban regeneration projects in high risk areas cope with the 'Medusa' Risks. On the other hand, according to him, a regeneration project with multi partnerships in a high risk area (Zeytinburnu) exemplifies the Medusa approach. Furthermore, the attempts, which develop diversionary expressions as if there is no risk and hazard in İstanbul refer to Cassandra approach. He exemplified that Cassandra approach has become widespread with the projects or investments (as urban regeneration projects designed by famous architects, Haydarpaşa investments, towers, etc.) which increase risks instead of supporting prevention precautions.

2.1. Urban Regeneration Issues in terms of Urban Risks

There are two focal points in this study for the purpose of identifying the planning methods in high-risk areas as a guiding process. One of these focal points is "urban regeneration". Another one is "risk". For that reason, the basic argument of this study is concentrated on reducing disaster risks approaches by an urban regeneration process for high risk areas in the cities (See Figure 6).

Cities in Turkey may be resembled a big pools of urban risks full of underqualified buildings. Current approaches focus on strengthening o f single buildings. Furthermore, there is a project that is supported by WB with 310 billion Avro, in the coordination of special provincial administration and governorship. This project aims to evaluate the seismic risk of the individual buildings and retrofitting of them, especially public buildings. (İstanbul Governorship, Project Coordination Center, 2009). However, it is not an ultimate solution for risk reduction. There should be a comprehensive national policy including risk reduction, mitigation and urban regeneration issues. New tools should be improved for financial, economical, social and legal sufficiency (See Figure 6).

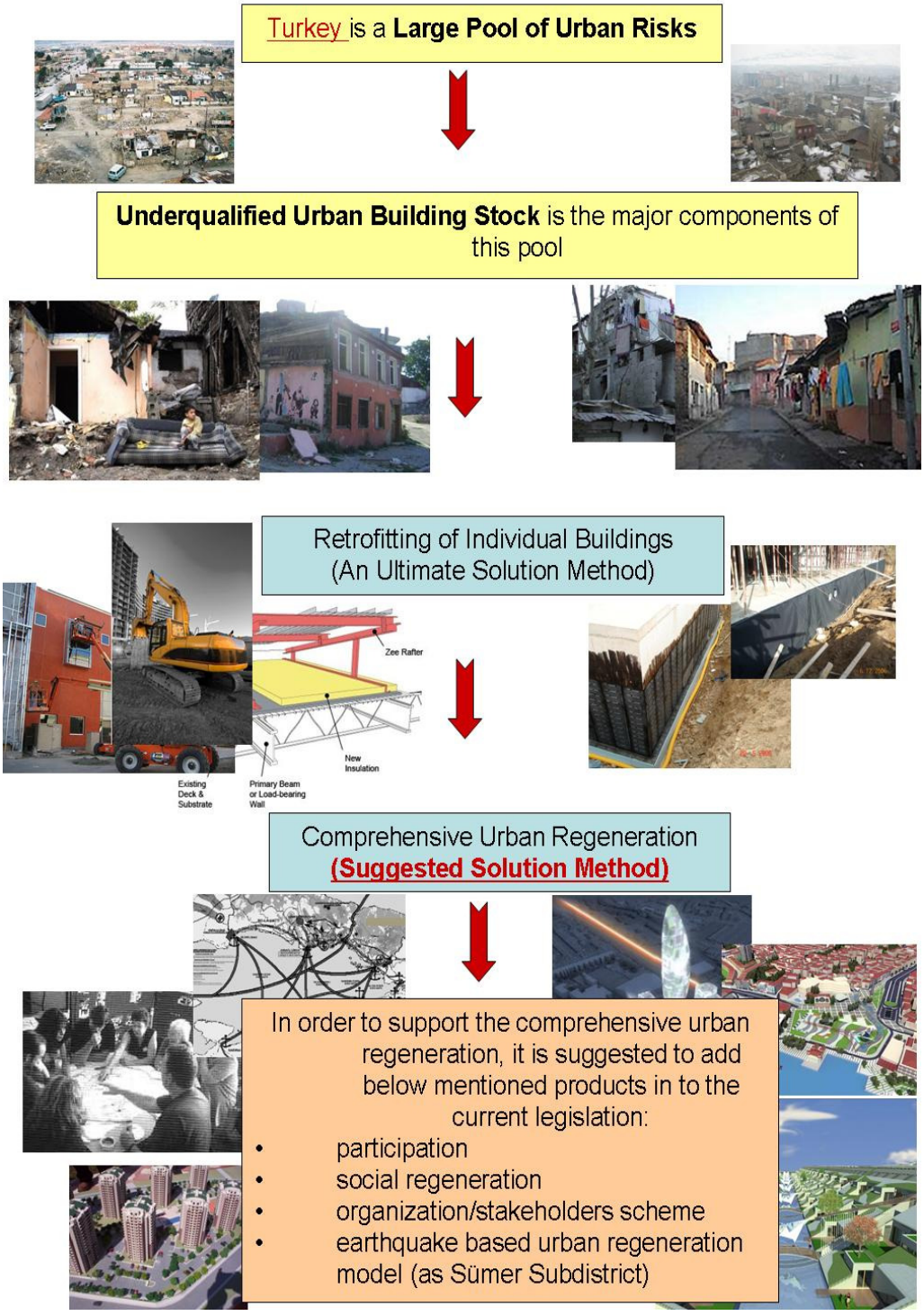

Figure 6 Urban Regeneration Reasons in terms of Urban Risks

According to Tekeli (2003), there are two different approaches in order to explain factual side of urban regeneration. One of these approaches is based on developing different hypothesis for all the different factual points which are accepted as independent parts of the city. Another approach explains the problems which seem as if different regeneration problems are accepted as different views of general regeneration problem.

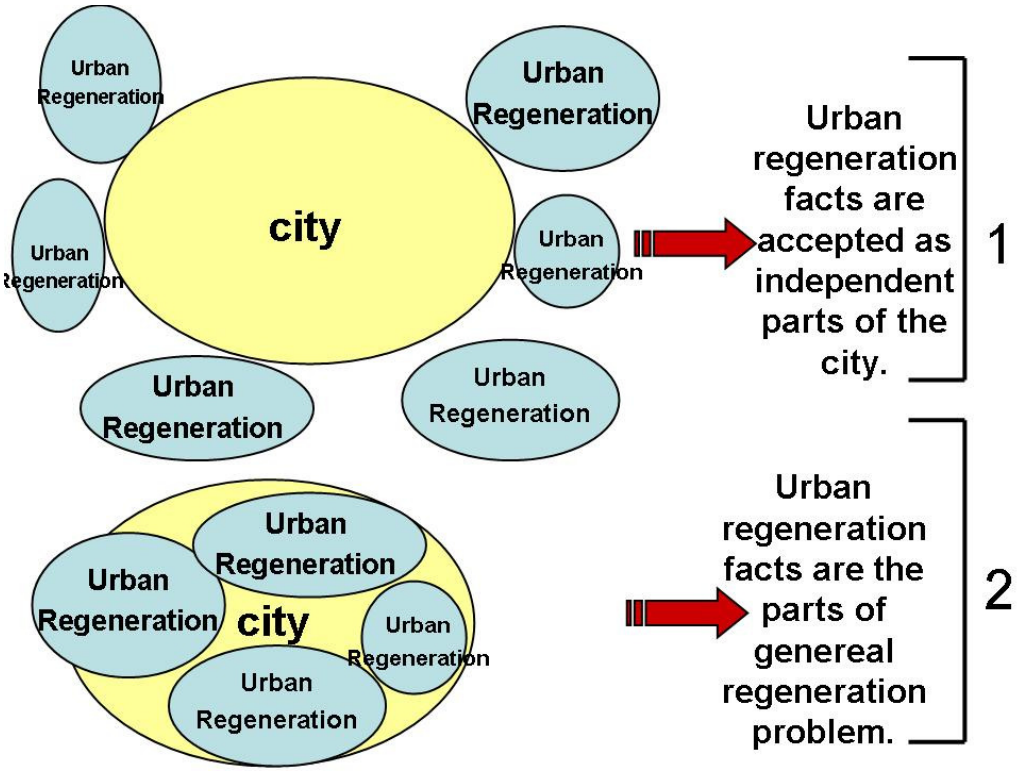

Figure 7 General Hypothesis of Urban Regeneration Problem
(Source: This schematization is synthesis of reading: Tekeli, 2003:2)

In relations with the basic reasons that has been discussed above, it is worth to consider a general hypothesis which can explain urban regeneration as the view of general regeneration problem that appears in the special conditions (Tekeli, 2003; 2).

In order to conceptualize the urban regeneration as a spatial unit, it should be presented out that the city is under pressure of continuous change and transformation with different reasons (Tekeli, 2003; 3). These reasons which are on the agenda can be summarized as followings:

- while the size of the settlements expands in cities and the city population increases rapidly while the cities are being transformed.
- economical developments change the integration format to the world economy, innovative capacities are improved,
- buildings have lost their qualities in time,
- There are increasing risk factors in the cities for the life and property losses in the fires, earthquakes or floods.

2.2. Different Resistance Mechanisms to Urban Regeneration

Tekeli (2003; 3-4) determines different resistance mechanisms which are developed against the urban regeneration trends. These different resistance mechanisms are;

1. high technical life (vulnerability) of buildings,
2. buildings as architectural symbols
3. divided ownerships
4. limited ownership rights

Looking through this perspective, the interaction between urban regeneration reasons and resistance mechanisms that are developed against regeneration introduce two kinds of regeneration types (Tekeli, 2003; 5). One of them is single building strengthening and the other one is comprehensive regeneration.

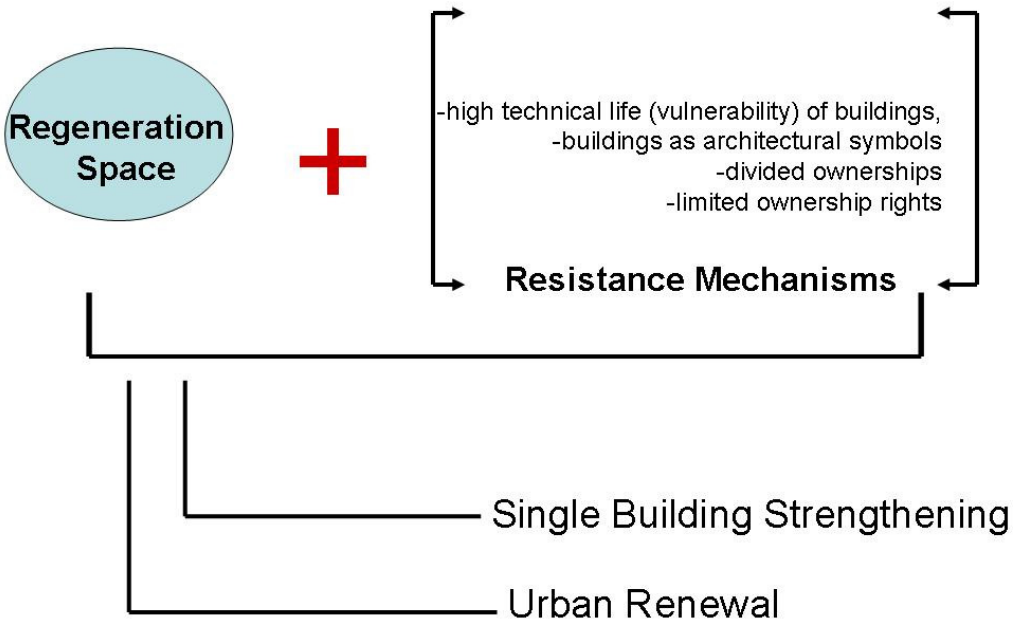

Figure 8 Urban Regeneration Interactions

(Source: This schematization is synthesis of reading: Tekeli, 2003:4-5)

There are several urban regeneration definitions in urbanization literature. Not only physical and economical aspects of city are mentioned with these definitions, but also social and environmental aspects of city are integrated into these definitions. One of these definitions identifies the urban regeneration as a comprehensive vision and action that provides the solution for the urban problems and that aims to provide a permanent solution for the economic, physical, social and environmental conditions of a region which had experienced alteration (Thomas, 2003; Görgülü, 2005; Yıldırım, 2006). For that reason, "urban regeneration" differs according to spatial location, economical aspects and socio-cultural characteristics of a city.

The term ‘urban regeneration’ is determined in the LUDA Handbook E-2 Report (2002:40) as addressing the symptoms of urban distress through improving declining and disadvantaged areas in towns and cities. It is not just about revitalizing derelict places but is also concerned with broader issues such as improved economic competitiveness and quality of life, especially for those who live in deprived neighborhoods. Ideally urban regeneration involves formulating policy goals, implementing these programmes of activity, and then monitoring performance over time.

While Turok (2004) expressed the urban regeneration with a similar statement, he brought together this definition with three basic features. With reference to this, urban regeneration;

- aims at changing the internal of a locality and also aims at incorporating the settled community and other actors which have rights on the future of the mentioned locality.
- includes various aims and activities that concurs government’s basic functional responsibilities due to the region’s specific problems and potential.
- Although the specific institutional structure of the partnership presents instability, it displays an incorporation contexture that operates in different partners.

Another definition for urban regeneration refers to a process of regaining one part of the town which has been experiencing the process of deprivation, isolation, degeneration for some reasons (Bayraktar, 2006; Yasin, 2005). This process includes the historical texture, abandoned industry and storage areas, unserviceable dockyard, harbor areas and residence areas. Urban regeneration not only deals with land using problems but also it takes charge of social and cultural activities and the problems affecting the whole city and region (Yasin, 2005) that includes a structural-functional change as a result of the economic, social, and physical factors’ negative oppression, belonging to the whole city or just one part (Gönen, 2002).

In other words, urban regeneration is a process that minimizes the environmental effect of the urban formation/ development by means of the measures related to protection of the natural and formatted historical areas and rehabilitating the environmental performances of

the urban areas and at the same time related to upgrading the conditions of the citizens living in the poorest districts, by means of society based modernization (Kocabaş, 2006).

Akkar (2006:29) determined "urban regeneration" as a strategical method that is implemented by comprehensive and integrated approaches regarding rehabilitation of collapse and corruption of economical, social, physical and environmental conditions of urban fabric. For that reason, urban regeneration is basically related urban planning and management rather than developing and planning new ones

Urban regeneration came into existence for these fundamental aims (Arkitera, 2008):

- Prevention of depreciated urban fabrics by researching social degeneration causes
- To respond of continuous regeneration need which is a part of urban fabric
- To form a successful economical development model in order to increase public welfare
- To support public participation in planning in order to provide urban policy which are product of social conditions and politic power

Basic structural features of urban regeneration are determined by Yıldırım (2006:8)
(See Figure 9)

1. Urban regeneration includes multi-disciplinary dynamics like social, economical, legal, administrative and political aspects etc. as well as physical aspects. This process has tangible results on physical, functional and social changings
2. Urban regeneration includes image problems that are related with the urban fabrics which are required to be renewed, inadequate location of the functions in the city and constructural instability of the building stock, etc.
3. Urban regeneration is an interference of organized interventions with social, economical and political objectives. This process is not developed spontaneously.
4. Urban regeneration is a hassle subject with the resistance factors which effects the regeneration process negatively. These factors are the economical life of buildings which do not end immediately, historical and cultural symbologies, the cost of relocation and limited development rights.

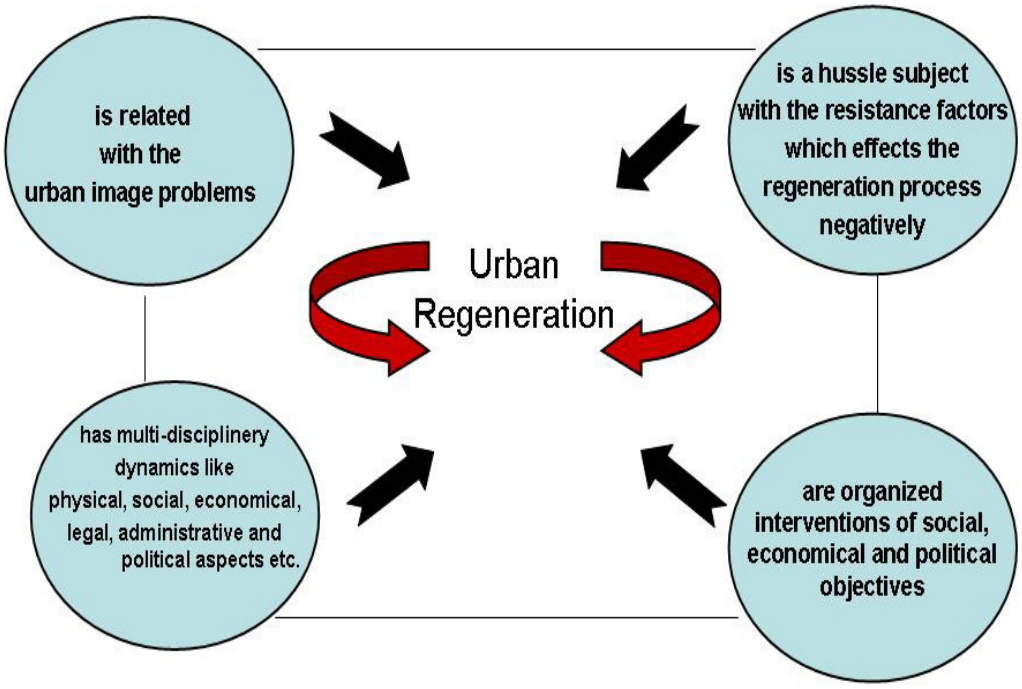

Figure 9 Basic Structural Features of Urban Regeneration

(Source: This schematization is synthesis of reading: Yıldırım, 2006:8)

Objectives of urban regeneration overlapping with the basic principles of urban planning issues can be determined as below (Yıldırım, 2006: 8):

- To maximize the urban welfare and life quality by increasing the income profit and the competitiveness of the cities,
- To minimize social marginalize by relating physical conditions and social problems,
- To shape 'urban policy' in a democratic way by utilizing interdisciplinary planning methods with stakeholders.
- To protect and develop urban environment with effective usage of the urban space,
- To integrate the urban regeneration areas into cities,
- To answer the sustainable development of the cities

In addition, heart of the city - city center- may become less important at the end of the process that new centers have been developed. The differentiations of the functional usage at different parts of the city may create an unfavorable effect at the city centers. Hence, unused places which are called lost spaces will be appeared at the end of this period. This is also an ordinary development process for urban redevelopment. However, the social, economical and physical aspects of the city should be renewed, redeveloped, rehabilitated at the old city centers in time. Thence, urban fabric is required to be renewed at

- old city centers which have been became less important,
- physical, social and economical distress areas that have been became less popular in time
- high-risk areas that are vulnerable from natural hazards as a result of rapid and unplanned urbanization,

The most significant and recognizable issue in the urban regeneration process is the contingency which is operated with a specific politico-economic motive by urban planning approach. Consequently, the idea of "urban regeneration is utilized as a tool in the 'preparedness' process in order to

- make high risk areas in the cities safer and
- increase the resilience of the cities towards disasters"

2.3. Opportunities in Decreasing Earthquake Disasters

The differences between earthquake hazard and earthquake risk, risk reduction, vulnerability and urban regeneration project zones[12] are determined in this part of the study.

[12] This concept is used in the Urban Regeneration Draft. For that reason, this concept is handled with the basic definitions of the term in the literature. This term should refer to a scientifical approach in this study.

2.3.1. Determination of the Earthquake Hazard

Hazard is generally defined as: "A potentially damaging physical event, phenomenon or human activity that may cause the loss of life or injury, property damage, social and economic disruption or environmental degradation." (UNISDR 2002).

The term 'Hazard' refers to the extreme natural events, which may affect singly or in combination (coastlines, hillsides, earthquake faults, etc.) at any time (Haki, 2003). There are different kinds of hazard or disaster types, but in general earthquake hazard can be grouped on the web page of Michigan Technological University, 2008 as following:

The first main earthquake hazard (danger) is the **effect of ground shaking**. Buildings can be damaged by the shaking itself or by the ground beneath them settling to a different level than it was before the earthquake (**subsidence**).The second main earthquake hazard is **ground displacement** (ground movement) along a fault. If a structure (a building, road, etc.) is built across a fault, the ground displacement during an earthquake could seriously damage or rip apart that structure. The third main hazard is **flooding**. An earthquake can **rupture** (break) dams or levees along a river. Then, the water from the river or the reservoir would then flood the area, damaging buildings and maybe sweeping away or drowning people. The fourth main earthquake hazard is **fire**. These fires can be started by broken gas lines and power lines, or tipped over wood or coal stoves.

The potentiality of the earthquake hazard risk increases by the time and the spatial issues. There are new tools which are used in order to determine the earthquake hazards (Eroğlu 2001). These are geologic, geotechnical soil survey reports, basic maps displaying the geological structure, seismic- technical maps, seismic risk maps and micro zoning maps.

Turkey was divided into 5 regions in terms of seismic risk in Turkey Earthquake Zones Map (See Figure 10) prepared by the General Directorate of Disaster Affairs (GDDA) in 1996 by taking into account geological structure, tectonic situation and seismicity characteristics, and 1st, 2nd, 3rd and 4th degree earthquake zones were considered as risky regions in seismic terms (Özmen vd., 1997). According to this map (See Figure 6), almost 93% of the

geography of our country is located on active earthquake belts, and 98% of the population lives in earthquake prone. On the other hand, as a result of movements that have taken place in last 60 years, 75% of the population lives in urban areas today. During this period, 61% of the total number of houses lost due to natural disasters is accounted to earthquakes. This loss has reached a half million units due to earthquakes that occurred in last 135 years (EQC, 2004, 12; EC, 2004: 3).

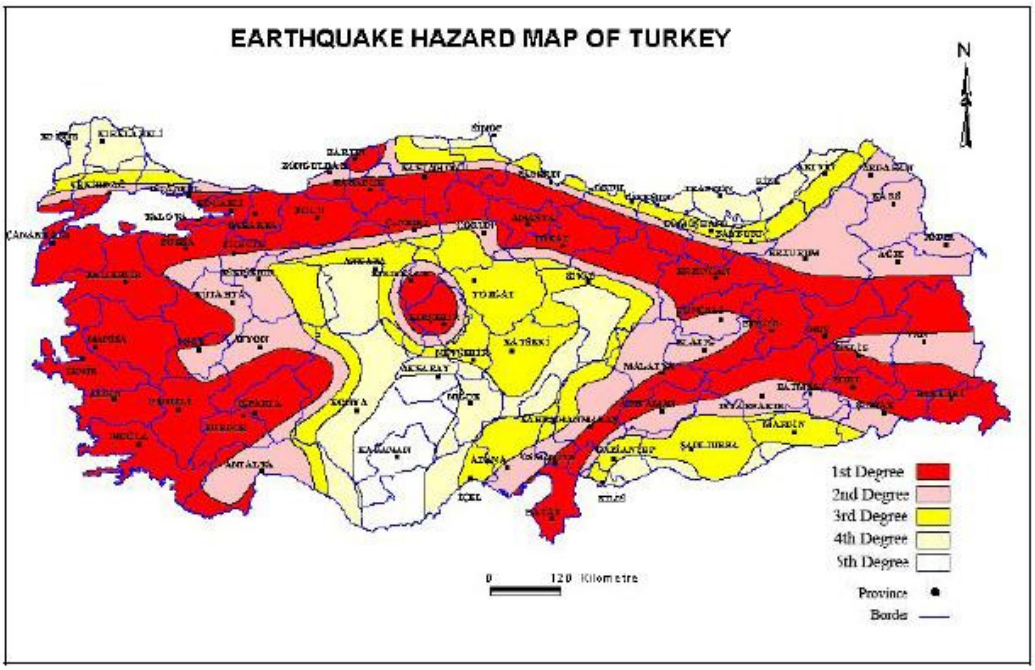

Figure 10 Earthquake Hazard Zoining Map of Turkey

(Source: GDDA, 1996)

This earthquake hazard map focuses on two main purposes. One of these purposes is based on the determination of the building construction standards. Another one is the calculation of the obligatory earthquake insurance that is entrusted with CEIS (Compulsory Earthquake Insurance System).

2.3.2. Determination of the Vulnerability

According to UN vocabulary (UN, 1992) vulnerability is determined as following:
"Vulnerability: Degree of loss (from 0% to 100%) resulting from a potentially damaging phenomenon."

As cited in Erdik (1999), vulnerability analysis includes the factors under risk (physical, social and economic) and the risk type belonging to them. There are two types of vulnerabilities defined in the literature. One of them is physical vulnerability which is related to urban substructure, networks and buildings, fields, planning, construction and operation systems. Another one is socioeconomic vulnerability that measures the risks for socioeconomic values and systems as the damage in the social substructure, the effects on production and employment potential, changes in the income distribution and inflation. The, construction activities and supporting construction services will be pull greater populations and elements under risk and earthquake hazard with the socioeconomic developments.

Lastly, vulnerability is defined as: "The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards". (UNISDR, 2004). In the point of my view, vulnerability is the key element that represents the level of the loss with hazard in determining the risk.

2.3.3. Determination of the Earthquake Risk

According to Balamir (2001: 28-29) organized irresponsibility in the formation of earthquake risks in Turkey is a real life event and has many sources as following:

- There is a deficiency in the full control of authority over the total system for the purpose of searching risks and measuring levels of harmfulness.
- Responsibilities are not particularly identified for the avoidance of risks.
- There are no penalties for the violation of forms of secure action.

- The standards of secure action and performance standards have not been specified yet.
- There is not any legal arrangement for consumers' rights.
- Both private actors and public authorities deny their duties in avoiding risks.

Erdik (1999) and Eroğlu (2001) identified the earthquake risk in accordance with UNDRO (Office of the United Nations Disaster Relief Coordinator). The expected loss levels at a certain time interval, resulting from a certain hazard, when the hazard's average iteration period is taken into consideration as a data. By this definition, risk can be presented as a combination of the subjects as; risk, the elements and activities under risk, earthquake potential, earthquake hazard and the possibility of suffering damage. Any change in one of these combinations directly effects the risk.

2.3.4. Determination of the Risk Reduction

Risk reduction is determined in ESPON (2nd Interim Report, 2003:19) involving policy/regulatory issues and planning practices like e.g. guaranteeing resources and preparing adequate plans for pre-disaster mitigation and post-disaster response measures.

The disaster risk reduction framework is composed of the following fields of action, as described in ISDR's publication 2002 "Living with Risk: a global review of disaster reduction initiatives".

- Risk awareness and assessment including hazard analysis and vulnerability/capacity analysis;
- Knowledge development including education, training, research and information;
- Public commitment and institutional frameworks, including organizational, policy, legislation and community action;
- Application of measures including environmental management, land-use and urban planning, protection of critical facilities, application of science and technology, partnership and networking, and financial instruments;

- Early warning systems including forecasting, dissemination of warnings, preparedness measures and reaction capacities.

The goals of UNDP (*2008*) for disaster reduction are defined as:

- ensuring the widespread recognition that disaster reduction and sustainable development are understood as mutually supporting goals,
- integrating sustainable disaster risk reduction and recovery into all UNDP country programmes.

"Disasters can be substantially reduced if people are well informed and motivated towards a culture of disaster prevention and resilience, which in turn requires the collection, compilation and dissemination of relevant knowledge and information on hazards, vulnerabilities and capacities"(UNSDR, 2005:9).

An integrated, multi-hazard approach to disaster risk reduction should be factored into policies, planning and programming related to sustainable development, relief, rehabilitation, and recovery activities in post-disaster and post-conflict situations in disaster-prone countries (The Johannesburg Plan of Implementation, 2002).

2.3.5. Determination of the "Potential Urban Regeneration Project Zones[13]" Using Scientific Ways

While determining the urban regeneration areas, economic, ecological, social and cultural values should be determined correctly. Moreover, public-private partnerships should be established and economical inputs should be counted in the regeneration projects. As it is known, regeneration model might drag into different mishaps instead of solving the problems. Therefore, the cities in Turkey have become commodificated market objects,

[13] There is a last legal draft for urban regeneration named "An Act Layout for Regeneration Areas". This legal draft mentions urban regeneration project zones, but not in a scientifical method.

which have been increasing the risks day by day at the end of new dynamics of the globalization process.

Kocabaş (2006:2-12) initiated to determine the requirement issues of urban regeneration projects as below (See Figure 10):

1. to create livable and organized cities,
2. to translate the areas with illegal and unauthorized constructions into the areas with legal and acceptable constructed buildings,
3. to translate the function of the areas that are vulnerable to the natural disasters,
4. to translate the areas that has risky urban functions in cities.
5. to translate the areas that has under qualified, under standard and unhealthy conditions to live.
6. to translate historical and conserved areas of the city

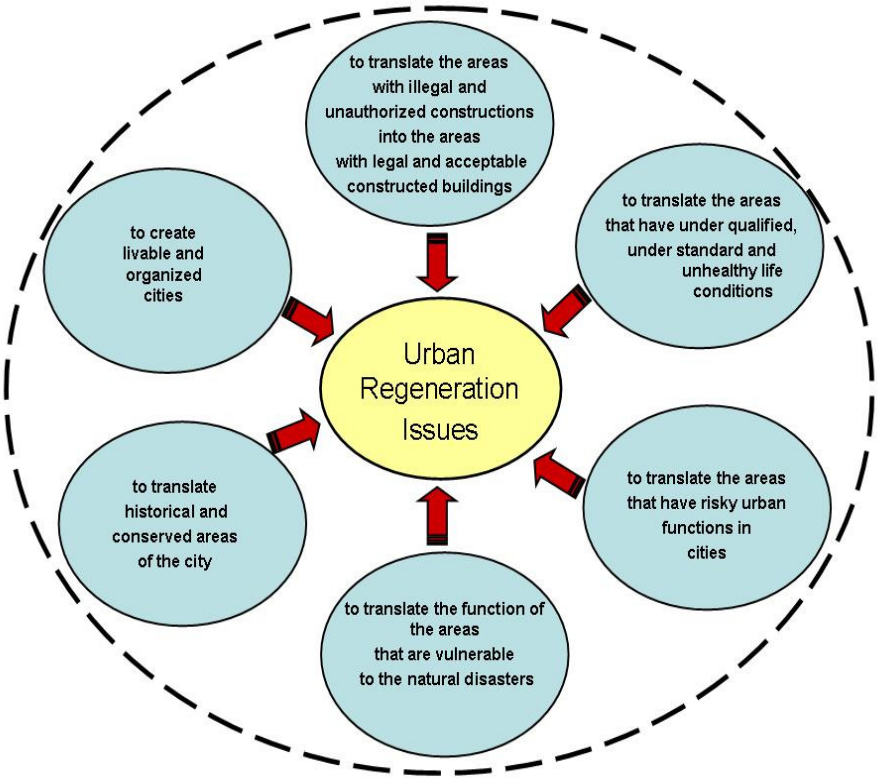

Figure 11 Urban Regeneration Issues

(Source This schematization is synthesis of reading: Kocabaş, 2006:2-12)

Sum up, urban regeneration projects do not refer to design new apartment blocks instead of illegal buildings. A special planning approach that includes information and technological production, disaster risk reduction, sustainable urbanization, employment development should be introduced in our planning system as a comprehensive approach which determines regeneration areas as a part of the urban fabric.

2.4. Thinking Urban Risk with Urban Regeneration

In our country, where natural disasters occur very frequently, urban regeneration is an efficient solution for both building safer cities at high risk areas and solution of other urban problems. Especially in cities, where have high risks against natural disasters, the risky residential stock should be handled before natural disasters with urban regeneration projects in order to decrease the possible damage from natural disasters.

Since %93 of the geography of our Country is located on active earthquake belts and %98 of total population live in earthquake-prone areas, these people are under great risk and millions of people have still been living in the damaged buildings. This fact means that these people are imprisoned while waiting for another earthquake, despite the risk of death. Unless any precautions have not been taken at regional and local levels, the tendency of the disaster is expected to increase (EC, 2004: 3).

On the one hand, disasters may effect the life quality, living conditions, economic development, environmental assets and services of affected areas. Consequences might even irreversibly affect economic and social structures and the environment for long term. To reduce the long-term effects of disasters, affected countries must do action plans urgently for identification and reduction of urban risks. First, financial resources for the prevention and mitigation of the foreseeable impact of a disaster should be assigned. Secondly, once a disaster has occurred, they must ensure that reconstruction investments contemplate vulnerability-reduction features to favor an adequate level of sustainable Growth. On the other hand risk, especially urban risks are factors effecting residential stock negatively in the city. Balamir (2001:25) stated that as well as the ‘poor buildings’ in standards of design

and construction, adverse land-use decisions of 'poor urban plans', their poor implementation and inspection have aggravated losses in stock and in human life. He tries to determine that another adverse mechanism of interactions between social and natural systems could be frequently encountered to aggravate vulnerabilities if the current practices of town expansion are analyzed (See Figure 23).

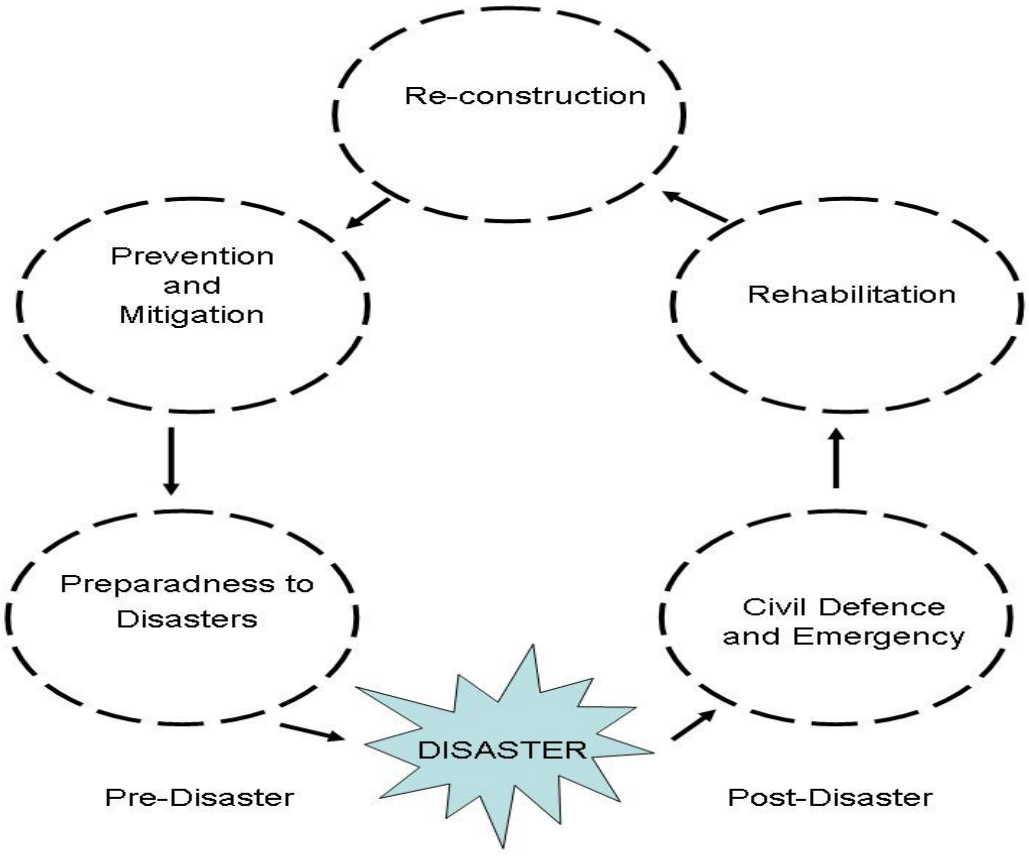

Figure 12 Phase of Disaster

(Source: Şahin, Tecim, 2006:4)

Balamir (2001:27) mentioned that in all speculative ruthlessness keep nature external in its equation of supply and demand tends to be risks. This is particularly the case in property development and building construction. Moreover, general nature of building construction, further conditions contribute to the indeterminable risk levels of the urban stock:

- Urban areas are infested with many forms of unauthorized stock for which no projects are prepared, no records held, no inspections carried out
- There are no authentic inspection activities during construction stages does take place even for most of the buildings within the authorized stock.
- There are no clear standards established or procedures followed in the choice of most of the building materials.
- Standards concerning the tolerable level of labor deficiencies in construction are unknown in the sector.
- Geological properties of building sites are general assessed very superficially in office.
- Changes are often made in urban plans to increase building densities in marginal levels so that owners are encouraged to build extra floors or make irregular partial additions to existing structures.
- Unauthorized structural modifications are most frequently yet randomly made by users and owners in buildings during occupation.

The need for the residential areas and infrastructural systems of the urbanians are the aims of urban regenerations (Yasin, 2005). According to him, both old infrastructure and outdated building stock create risky settlements it is necessary to reorganize esthetically. Moreover, he adds that the transfer of the cultural heritage to next generations, and protection of natural cultural and historical fabric represent the functions of urban regeneration. To ensure vulnerability reduction, reconstruction program and projects must be designed within a mitigation and prevention strategy that is part of the development process. Therefore, a set of diagnostic tools is needed to measure the type and amount of damage and losses caused by each type of disaster.

There are three references for earthquake-based urban regeneration model. These are three national reports which are prepared in order to develop strategies related with the reduction

of urban risks by underlining the urban regeneration fact for the high risk pools of Turkish cities. One of the latest studies about earthquake risk is published by the National Earthquake Council in April 2002, (EQC): The report of: 'The National Strategy of the Reduction of Earthquake Losses'. The other one is organized by State Planning Organization in June 2004: The report of the Earthquake Management Study Group in the 4th Economics Conference of Turkey Another one is the reports of 'Earthquake council of the Ministry of Public Works and Resettlement' in September 2004.

The report of: 'The National Strategy of the Reduction of Earthquake Losses' that is published by the National Earthquake Council in April 2002, (EQC)

According to the First report (EQC: 2002), the strategies to be ready for earthquake are determined under two fundamental topics. These are: (1) risk management studies which includes pre-earthquake preparations, (2) disaster management which includes post-earthquake studies. This report predominantly focuses on the reduction of earthquake risks which have to be done before an earthquake has occurred in the long and short Terms.

As it has been stated in the report, the modern society has been pushed to a retrogressive turbulence of "risk concentration". This period which effects the sustainability of the natural and life time seriously is called as 'Risk Society' which is the' second enlightenment' period with the developments of the communication and information systems.

The explanations tried to be handled about earthquake policy in this report are "disaster risk reduction" and "disaster intervention" that should be the two integrated parts of the national earthquake policy. Pre-post disaster studies have to be determined in short and long terms. This conceptual systematic can be summarized as the following figure 13;

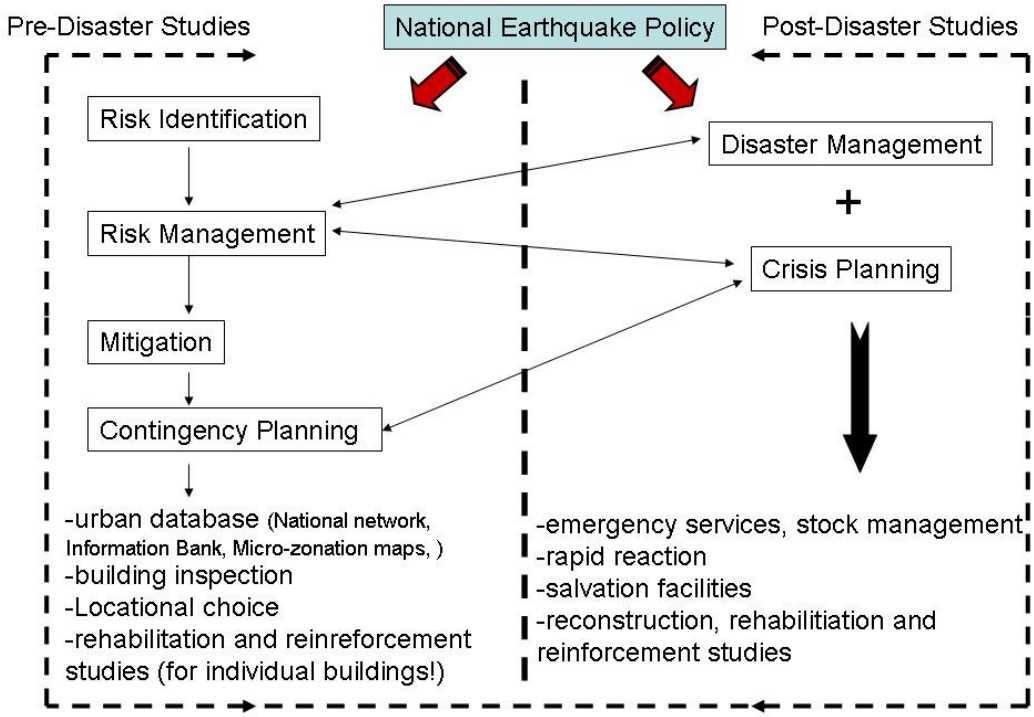

Figure 13 National Earthquake Policy for Pre and Post Disaster Studies in Short &Long Terms

(Source: This schematization is synthesis of reading: EQC, 2002, 13)

This report generally focuses on creating a 'National Earthquake Reduction Strategy'. For that reason, the information should be evaluated scientifically with the sufficient technical tools (software and hardware) to be used for the planners and other decision makers. For that reason, a renewable 'Earthquake Information Network System' should be prepared urgently. In order to constitute the earthquake resistant in the cities, natural hazards should be reported by micro-zonation maps, official records of the past damages, loss of life and properties should be kept, risk analysis should be done and a contingency planning should be developed. It is underlined in the report that, zonation maps should be prepared in two levels in order to reduce the earthquake risks according to the earthquake hazards. (1) Macro zonation maps should be used in national, regional, sub-regional, master plan scales,

(2) micro zonation maps should lead the development plans. These systematical levels can be summarized as the following figure 14;

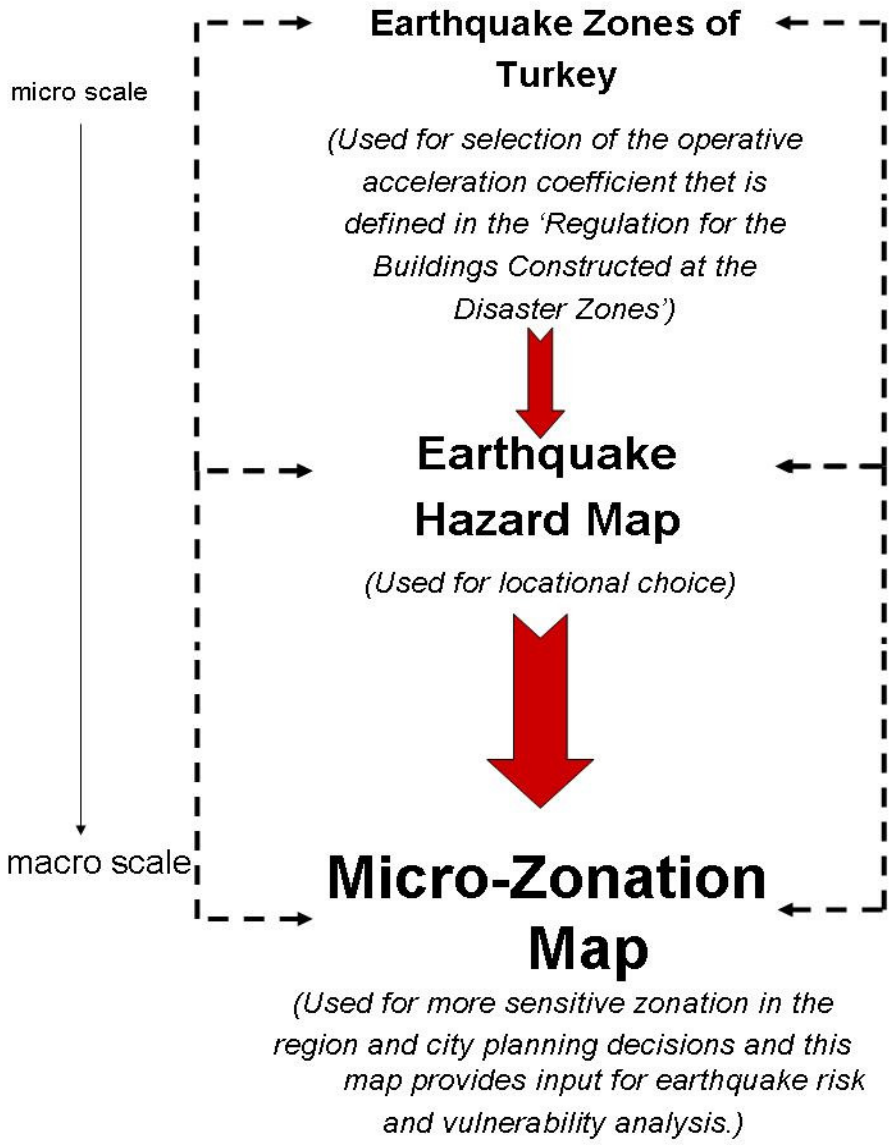

Figure 14 Systematical levels in order to reduce the earthquake risks according to the earthquake hazards

(Source: This schematization is synthesis of reading: EQC, 2002, 24)

This report mainly tries to identify the precautions are defined for different sectors as transportation and infrastructural systems, building stocks and some sub-zones as coastal zones, landslide zones, high risk areas, spatial distribution of the urban risks and schedule of the plan, intervention types are also determined in the contingency plans. In this study, the term of 'action plan implementation area' is defined in the contingency plans. According to the report, this 'special spatial area' is subject to common evaluations, as a fabric of urban in a different organizational and financial systematic with public and private partnerships instead of single building strengthening.

Balamir (2001: 29) initiated to determine the necessity of disaster risk management and contingency planning as following:
"An initial point is the need for a clearer understanding of what mitigation encompasses, and the conceptual and practical differentiation of the 'Disaster Management' system from that of 'Risk Management'. The former is related to all preparations and planning concerned with the occurrence of an earthquake.... 'Crisis Planning' involves identification of responsibilities in the case of emergencies, training and preparation, emergency intervention, relief operations and immediate accommodation, compensations and rehabilitation work. 'Contingency Planning' on the other hand, entails the structuring of information bases and communications, micro-zonation. risk analyses, determination of urban vulnerabilities, land-use planning decisions, building control, retrofitting work, proficiency of responsible agents undertaking such work."

The report of the Earthquake Management Study Group in the 4th Economics Conference of Turkey organized by State Planning Organization

According to this report that is represented as secondly (EC, 2004), 'urban regeneration projects' are subjected to be the predominant solution ways in the high risk areas by the legal and administrable sanctions.

It is mentioned in the report produced by 'Earthquake Management Study Group' that body of Development Law should be improved in order to develop standards regarding risk reducement, risk management and earthquake safety principles. This fact was understood

after five years of the devastating earthquake in 1999, but, there were no effort to start this legal process.

The reports of 'Earthquake council of the Ministry of Public Works and Resettlement'

This report aims to bring together the decrees of current body of law which are related with the earthquake phenomenon. As cited in (EQC, 2004, 46) urban regeneration plans are identified such as:

"They are plans in risks areas that require urgent intervention, for the purpose of physical and social development for public welfare, building strengthening, environmental improvement, density reduction, unification and resharing of real estates, putting construction and usage limitations together with social precautions take place"

It is obligated in the report that, urban regeneration should be mentioned in the draft of "Development Law" which was come to agenda after 99 Marmara Earthquake. In addition, another draft which was called "Draft Urban Regeneration" was prepared by the Ministry of Public Works and Resettlement as a legal reform aiming to be construct shanty areas.

The current Development Law numbered 3194 focused only the Construction of the buildings for the purpose of urban development. On the other hand, this legal modification for planning can not provide required processes of dynamic and flexible planning issues as finance, ownership, participation, legal arrangements for 'urban regeneration' which aims to renew the unsafe and depreciated areas against natural disasters. Thereby, urban regeneration should have its own tools and distinctive legal arrangements prepared apart from the current Development Law. Since urban regeneration projects are implemented in the built-up area, especially in high risk areas, these plans should require data of natural and physical structure of the area, as well as information as to the social and economic structure of the regeneration area.

As it has obviously seen from these reports, the importance of comprehensive urban regeneration method has been underlined again and again. However, last term urban

regeneration projects have the possibility of increasing risks instead of reducing disaster risks.

2.4.1. Criteria of Evaluation Issues for Urban Regeneration Process

Balamir (2006d: 47) studies the physical-spatial and socio-economical criteria which support the stability of urban regeneration policies and implementations:

1. Physical-Spatial aspects of urbanization:

As the consequence of the uncontrolled urbanization from the 1950s'

- Wrong development policies and decisions valued agricultural areas were reduced.
- Natural assets and cultural heritage were demolished
- Under qualified building stock was produced.
- Deprivation of aesthetical and identifiable assets and high risk urban areas were created. ("Gecekondu" areas)
- Social iniquities gained dramatic view physically.

2. Risk Pools
    - Rapid urbanization
    - Properties of Turkish Geography
    - The position of cities that are open to hazards
    - Incompatible physical arrangements
    - Unauthorized and inadequate building stocks have created huge risk pools against technological and natural disasters (Balamir, 2006d: 47).

3. Gaps of Hierarchical structure in Urban Management

In the structure of the urban management in Turkey should include civil administration units as block and parcel management before apartment management. Urban regeneration may support local participations for these structural managements.

4. Participation

Urban regeneration has an international role in the participation of the actors, individuals in order to provide equivalent option.

5. Implementation of the new planning mechanisms

Balamir (2006d: 47) tries to determine a new identity with the physical, economical, a financial, social, legal dimension of the area which is required a coordinated study. For that reason, he mentions that the new organizational methods, new implementation tools and techniques should be developed. The final data he achieved represents that unauthorized settlements represent risk pools against environmental problems, fire damages or planned casualties like terrorism, new policies and approaches must be developed immediately.

Even if urban regeneration implementations require huge financial income, the cost of preparation to earthquakes is less than earthquake's damage. In addition, different models which are appropriate with the conditions of Turkey must be developed and implementations must be increased in order to constitute safe cities against natural disasters

2.4.2. Alternative Methods for New Approaches of Urban Regeneration

The term “urban regeneration” is identified in the report of earthquake based urban regeneration model which is prepared by Urbanization Studio of İstanbul in 2005. In this report Altun (2005) tries to determine the earthquake-based urban regeneration model as below;

“Urban regeneration is re-building of the areas for reducing the probability of injury, loss of life and economical values, also increasing economical Development, individual prosperity and increasing the individual life standards for building stocks in urban regeneration areas when a probable earthquake risk has occurred.”

His model is formed with the consequence of a pilot project in the eighteen months period with the light of urban regeneration concept in EU and other urban regeneration references

which define the concepts and goals of urban regeneration. Moreover, he indicates the visions of the model as following:

- To consider the earthquake as an opportunity
- To begin a civilization attack
- To integrate spatial development with economical and social development.
- To be scientific
- To think as strategic and long term
- To be creative and regenerative
- To be participant,
- To be at equilibrium between traditionalism and creativeness
- To consider urban regeneration as a competition for improving the world cities
- To be at the international standards for every step
- To use technological methods for every step

According to this report the properties of earthquake-based model are listed below;

1. have a participant vision
2. have a comprehensive database based on a scientific research,
3. have a theoretical and practicable process with field-work
4. .study for individual needs and wishes
5. design for only local needs
6. have a flexible form which is used for different urban regeneration projects
7. include new concepts as governance, participation, public-private partnership, social responsibility, local partnership, public control
8. have a required concept and infrastructure for sustainability
9. use partnership tools just like trust, accommodation (etc.) at every step,
10. 1have a simple content
11. define self-financial process
12. is compatible with EU.
13. is compatible with local agenda 21which is an international interference.

Five basic steps for earthquake-based urban regeneration model are determined in the report as following:

1. Strategic Plan
2. Collecting data, analysis and evaluation
3. Planning
4. Implementation
5. Composing the implementation process

Detailed definitions of the basic steps for urban regeneration model are represented below:

1) Strategic Plan is prepared for composing the general framework for implementation of urban regeneration model. Strategic plan is a reference document which defines the regeneration vision, general goals, basic strategies and policies.

According to the report, "strategic plan is a basic document which determines the decisions of the regeneration and guides all steps of the urban regeneration which underlines the general concept of regeneration about implementation". So, this document is a basic pioneer strategy document for urban regeneration issues.

The content of the strategic plan in accordance with the report is mentioned below:

- Determinations and evaluations about the urban regeneration area.
- Alternative planning models which is intended to implement
- The criterions and strategic goals for sustainable development.
- The strategic alternatives and the choice of strategy
- Policies for urban regeneration area. It is determined to choose six policy fields which have priority in Zeytinburnu Pilot Project Area (Altun, 2005). These priorities are listed below:

Table 1 Preferential Policies for Urban Regeneration Area
(Source: Altun, 2005)

Earthquake Risk and Mitigation	Needs for Earthquake mitigation
	Emergency Management
	Risk Management

Table 1 continued

Local Economic Development	Development of the current economical activities
	Development of employment facilities and encouragement of investments
	Improvement of technical ability
	Development of employment opportunities for local society in the regeneration area.
Increase in life quality and social conditions	To provide earthquake mitigated houses for the people who live in the regeneration area
	Rehabilitation of housing quality for the people who live in the regeneration area
	Rehabilitation of public institutions and public services
Conservation and rehabilitation of environment	to obtain standards of environment
	Invigoration of local identity and rehabilitation of cultural heritage management
	Rehabilitation of natural source management
	Reduction of energy loss.
Rehabilitation of transportation infrastructure	Rehabilitation of traffic management
	Encouragement of public transportation
To provide social equality	To benefit from public services equally for all groups and individuals
	To provide the needs for women, children, retired, handicapped people

2) Engineering Works is the process which determinates the floor properties, earthquake hazards of the urban regeneration area and the vulnerability of all the buildings in the regeneration area.

3) There are eight steps for planning

a) Field Work Study: Social and economical structure and the response to the earthquake notion are determined with the survey methodology in the selected dwellings and commercial and industrial buildings in this step.

b) Temporary Habitation Study: The locations of temporary habitation are determined in the urban regeneration area the after earthquake disaster.

c) New Settlements Study: New settlements are determined in and out of the regeneration areas for the people who live in the risky buildings.

d) Historical and Cultural Heritage Study: Officially registered/non registered buildings which have a property of being a historical and cultural heritage in urban regeneration areas are determined in this step.

e) Transportation Study: Transportation planning which aims to open the evacuation corridor and connects the main evacuation corridor of the city and rehabilitates the transportation infrastructure is planned in the regeneration areas for the risk management process.

f) Green Corridor Study: Determination of green areas which will be used after disaster is determined in this step and new green areas are planned in the regeneration areas.

g) Analytic Study: All data which will be used in the planning of urban regeneration area are collected in this step.

h) Vision Meetings are the meetings which determine the future vision of urban regeneration with the participation of all stakeholders.

4) Sectoral Grouping Study: Current and new competitive sectors are determined as a tool of economic and social regeneration and new models are composed for new sectors.

5) Economic and Social Regeneration Study: Economical and social structure of urban regeneration area is determined, sectoral analysis is prepared and economical, social and sectoral regeneration policies are determined in this step.

6) Planning Study: A practicable urban regeneration plan is prepared after all the planning steps, analysis and studies are evaluated. There are two main steps for planning processes.

a) Alternative Planning Approaches and Evaluation: Alternative planning approaches as decentralization, action plans, participation, sustainable neighborhood regeneration models are examined and used for planning.

b) Planning:

- Determination of functions for urban regeneration area.

- Determination of sub-districts in the urban regeneration area.
- Developing alternative plan scenarios for urban regeneration area.
- Determination of synthesis scenario for urban regeneration area.
- Composing models, detailed implementation programs and implementation stages for 20-year term

7) Action Plan is prepared for the implementation of synthesis scenario in the urban regeneration area. The stages of the urban regeneration (short-medium-long term), budget of the regeneration is organized in the action plan.

8) Projects and Programs: Practicable projects and programs are prepared for the action plan in this step.

9) Implementation Process is a process which determines and prepares the required conditions in order to apply synthesis scenario, implementation plan, projects and programs.

a) Legal Frame: Legal frame is composed for implementation for every steps of urban regeneration

b) Managerial and Institutional Process: Institutional and administrative structure is established for governance of urban regeneration.

c) Finance: Financial sources are determined in every step of urban regeneration

d) Participation: The participation of local community to the every step of planning process (decision, implementation and control processes) is composed in this step.

e) Communication: Communication models between public opinion and local community are composed for every implementation process of urban regeneration.

f) Project Management: The preparation of projects and programs at the national and international standards is provided in this step.

g) Information Management: All theoretical information of urban regeneration and other information about projects and programs and the digital data for action plan are collected and effective data management system is composed in this step.

h) Consistency between Upper Scale Plans and Strategic Plans: There are consistency between supper scale plans which are prepared by center or local public authority and the urban regeneration plans. (See Figure 48)

Consistency between Upper Scale Plans and Strategic Plans: There are consistency between supper scale plans which are prepared by center or local public authority and the urban regeneration plans. (See Figure 48)

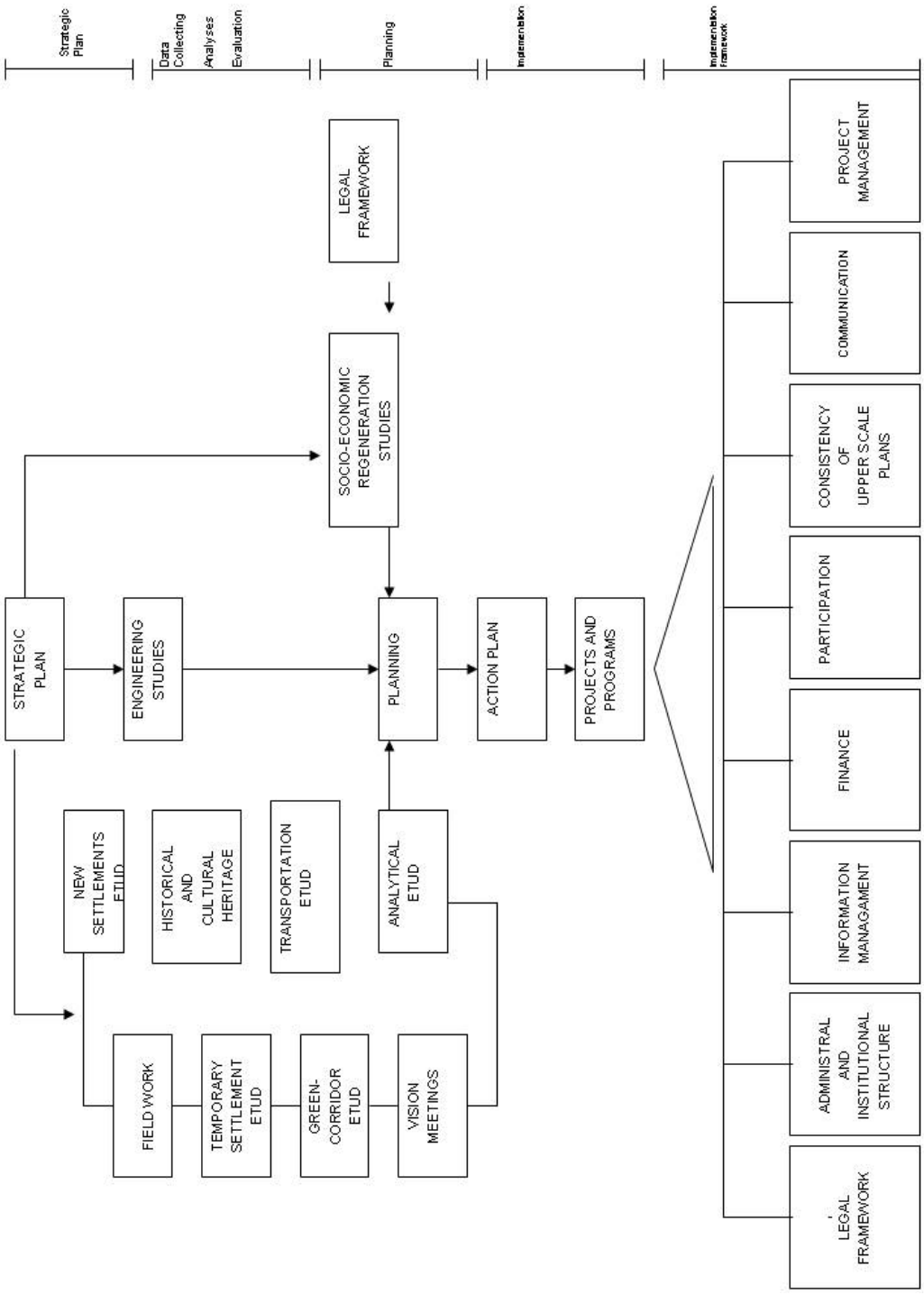

Figure 15. Earthquake Based Urban Regeneration Model and Stages of the Model (Source: Altun, 2005)

In this model, urban regeneration is implemented in the light of the strategic plan, which includes alternative planning models, strategic aims, strategic alternatives and preferential policies for urban regeneration. Moreover this model includes a simplified method of GAM (Goal Achievement Matrix), which is used for the purpose of identifying the alternative areas both regeneration area and new residential settlement. While determining the urban regeneration criterions that are used in the model, the technical information of GAM, EMPI, JICA ZPP are taken into account.

According to this report, which is prepared by Urbanization Studio of Istanbul in 2005, the criterions are organized according to their priority. Then, every criteria is graded from 1(low) to 3(high) for all alternative regeneration areas and new residential settlements (See Table 6). The alternative areas that have the lower density, physical conditions, deficiency in the infrastructure systems, scarcity of open spaces and lower environmental quality, distribution of the incompatible usages, deficiency of transportation systems, role of the regeneration area in the metropolitan area, higher capacity of private investments, lower social life quality and higher degree of acceptability of the user get the higher score. These higher scores refer to the priority for urban regeneration.

Table 2 Urban Regeneration Criteria for GAM Method

(Source: Altun, 2005)

Gam	Gravity	Score	Beyoğlu		Cirpici		Gökalp		Kadıköy		Maltepe		Merkez efendi		Narlıca		Seyitnizam		Sümer		Tekir		Yıldızhodi		Yenidoğan		Yeşiltepe	
Urban Regeneration Criteria																												
Population density of the area	13	3 2 1	2	26	3	39	2	26	1	13	1	13	1	13	3	39	1	13	3	39	3	39	2	26	3	39	3	39
Geological structure of the area	12	3 2 1	2	24	3	36	2	24	1	12	2	24	1	12	2	24	2	24	3	36	3	36	3	36	2	24	2	24
Vulnerability of the buildings in the area	11	3 2 1	1	11	3	33	2	22	1	11	2	22	2	22	2	22	1	11	3	33	2	22	2	22	2	22	2	22
Physical conditions of the buildings in the area.	10	1 2 3	1	10	2	20	2	20	1	10	3	30	3	30	1	10	1	10	2	20	2	20	2	20	1	10	1	10
Deficiency of infrastructures	9	3 2 1	1	9	1	9	2	18	3	27	1	9	2	18	2	18	2	18	3	27	1	9	1	9	2	18	1	9
Ownership status	8	3 2 1	2	16	2	16	2	16	2	16	3	24	2	16	2	16	2	16	3	24	2	16	2	16	3	24	2	16

Table 2 Continued

Open space and environmental quality level	7	3 2 1	2	14	2	14	1	7	3	21	3	21	3	21	1	7	14	98	3	21	1	7	2	14	1	7	1	7
Distribution of the incompatible land-use in the area	6	3 2 1	3	18	3	18	2	12	2	12	3	18	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12
Capacity usage of the transportation system	5	3 2 1	2	10	2	10	1	5	3	15	3	15	3	15	1	5	3	15	2	10	2	10	1	5	1	5	2	10
The role of the regeneration area in the metropolitan area	4	1 2 3	2	8	1	4	3	12	2	8	3	12	2	8	3	12	2	8	3	12	3	12	3	12	3	12	3	12
Private investment capacity	3	1 2 3	1	3	2	6	2	6	1	3	3	9	1	3	2	6	1	3	2	6	2	6	2	6	2	6	2	6
Social life quality	2	1 2 3	2	4	3	6	3	6	2	4	2	4	2	4	2	4	2	4	3	6	3	6	2	4	3	6	3	6
Acceptability of the user:	1	1 2 3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
TOTAL			**156**		**214**		**177**		**155**		**204**		**177**		**178**		**235**		**249**		**148**		**185**		**188**		**176**	

As it is seen from the table, Sümer District in Zeytinburnu has the greatest score. Therefore, urban regeneration in Sümer District is preferential according to the determined criteria that have been used in the GAM method.

2.4.3. Guiding Principles for Urban Regeneration at Risky Areas

It has been intended to develop guiding principles for urban regeneration at risky areas with this study. For this purpose, these steps should be taken into consideration. First of all, functional zonation should be planned through the whole plan area. After the risky areas have been determined in huge zones, the area is going to be handled with micro levels in order to choose the more effective area for preferential implementation. What criteria should be used for identifying these areas? While determining the principles for preferential choice of urban regeneration area below mentioned principles might be taken into account:

Table 3 Attributes of determination criteria of regeneration area

Attributes	Criteria
Geological Structure	Geological structure of the area
Physical Structure	Physical conditions of the buildings in the area. Buildings over five storey Buildings without fire escape Buildings without fire escape Construction of the buildings Historical inventory Front and back garden
Density	Population density of the area Building density of the area overbuilt areas (construction is over FAR)

Table 3 Continued

Age	Built date of the buildings
Locational Statue	Ownership statue Deficiency of infrastructures distribution of the green spaces Slope of the district Social life quality Distribution of the incompatible land-use in the area Capacity usage of the transportation Systems Function of the buildings according to the floor areas
Administrative Issues	The role of the regeneration area in the metropolitan area The functional compatibility of the area in accordance with the upper scale plans

The numbers of characteristics that are used in combination will provide to identify issues related to social and physical vulnerability with the potential and improve quality of life. Most practical and effective way for city planners to designate regeneration areas is determining the best solution in accordance with these criteria, which should be evaluated scientifically. For that reason geographic information Systems (GIS) is the best way for evaluating these independent variables. In the geographic information system, data base is formatted as rows and column into tables. Every row defines the graphical object and every column defines the identical classification of the same object of its attribute in the database. The intersection of the rows and columns compose the cells which save the non-spatial data.

These non-spatial data inside the cells provide the SQL questioning according to the graphical objects which are defined in the rows and the common classification with the Arc G.I.S. 9.0[14] Programme.

Other reason why this method should be chosen is that; the database of this research is designed in order to evaluate the urban regeneration process in high-risk areas using mathematical relationship between the rows and columns in the database. SQL query is the basic property of the G.I.S. used in the research fields. By this way, the relationship between graphical objects and the database can be set up easily by the smart designed databases. Moreover, "The Urban Macroform Analysis", "Urban Land Use Pattern", "Urban Risk Elements Analysis", "Urban Infrastructure Analysis", "Building Stock Analysis", "Tier Element Analysis", "Urban Open Areas Analysis" might be done by the help of GIS technology in order to define urban problems and the indication of the risks beyond these problems. And this kind of analyzing method will be the best choice for an objective academic research.

After the criteria have been evaluated scientifically, an urban regeneration area will be chosen. At the end of this determination, two decisions might come on agenda. One of them is "dispossession" and the other one is "urban regeneration". (See Figure 16)

[14] ArcGis is a software for geographic solutions which is produced by ESRI.

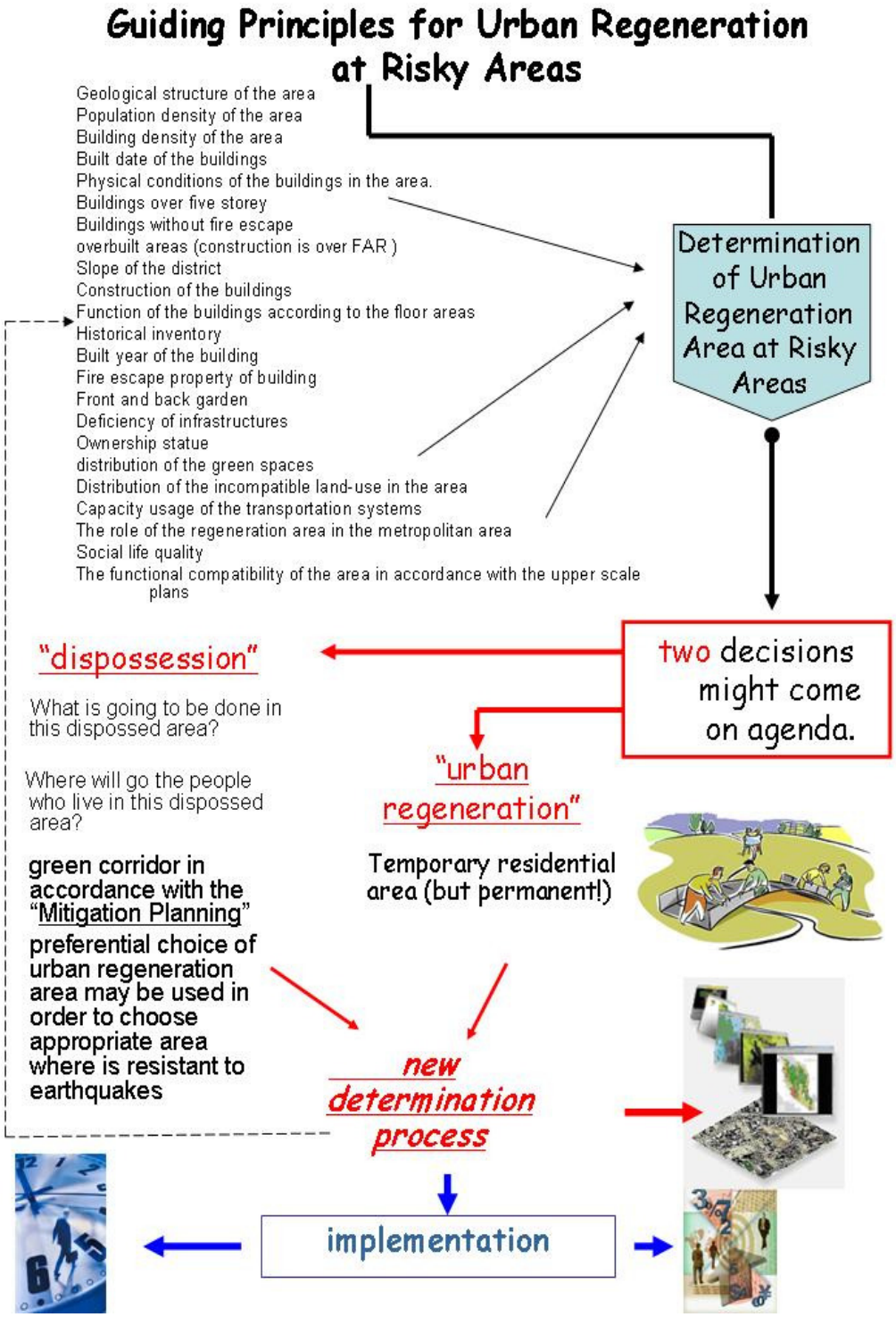

Figure 16 Guiding Principles for Urban Regeneration at High risk Areas

1. Dispossession

Transfer of Development rights and encouragement and compulsive sanctions for dispossession are going to be implemented in the area.
Therefore the problems facing declining communities at the urban distressed areas raise two open questions that need to be addressed after the decision of dispossession:

- What is going to be done in this disposed area?
- Where will go the people who live in this disposed area?

The answers should be as following:

- This disposed area could be arranged as a green corridor in accordance with the "Mitigation Planning" as well as other upper scale plans.
- Same principles for preferential choice of urban regeneration area may be used in order to choose appropriate area where is resistant to earthquakes.

2. Urban Regeneration

For comprehensive urban regeneration, temporary residential area should be planned in accordance with the upper scale plans, mitigation plans. This new planned residential area will be in terim for the people who live in the regeneration area, but, it will be permanent for the other urban regeneration projects. For that reason, the criteria that are determined scientifically for the preferential choice of urban regeneration area might be used in this evaluation process. On the other hand, the strategic plans should be prepared for the regeneration area which is determined by scientific methods. With these strategic plans, the underlying principle of urban regeneration in risky areas should generally be focused on:

- the principles of designing safety for safer settlements against urban risks as well as earthquake risks, the issues of planning procedures which do not ignore urban risks,
- organizational framework
- participation model
- financial model
- Schedule/ time table of the project including stages of the project.

Fundamental factors operating and experiencing in the risky areas:

- technological developments and changes in people's demands and needs (smart houses systems)
- Because of social and economic policies with disruptive effects to building stock and urban fabric, new designs should be tried with comprehensive urban regeneration.
- Land-use decisions can be changed by urban regeneration by the effects of general market forces and, increases in land prices.
- Comprehensive urban regeneration implementations change in types of urban transportation systems and accessibility of transportation opportunities.
- low quality standards in risky housing stock can be eliminated with urban regeneration.

The purpose of this urban regeneration should be to raise awareness of the organization's leading role in supporting disaster risk reduction with specialized programs. Under the light of these guiding principles, a special renewal program should be prepared as following:

- Environmental and building safety can be provided.
- The risks that are caused by urban design issues can be provided.
- Living quality and social life quality can be developed.
- Economical equality can be improved by employment programs which are planned in the regeneration area.
- Local participation can be developed by the social programs created in the regeneration area.

Determination of the preferential areas and determination of the new residential areas for the people who live in the regeneration area will be identified. For that reason, it has been expresses a model in order to determine the regeneration area and the determination of the new residential areas. The basic aim of the program should be to promote city regeneration policy. This policy implies major renewal practices of existing urban structure such as housing rehabilitation, creation of open and public spaces and re-use of industrial buildings. The objective of these operations is to make safer settlements against natural disasters, and to improve the quality of environment and buildings.

2.5. Changing Context of Urban Regeneration with Basic Reasons

Gürler (2002, 23) initiated to categorize the urban regeneration process due to the political idea and economic model in different contingencies with respect to the periods. She categorized urban change into two main phases with respect to the shifts in the history of urbanism. (See Figure 17)

1. Shift from agricultural pre-industrial city to modernist industrial city is underlined by significant changes in urbanization process.
2. Shift from modernist industrial city to post-industrialist global city (Gürler, 2002:2-3)

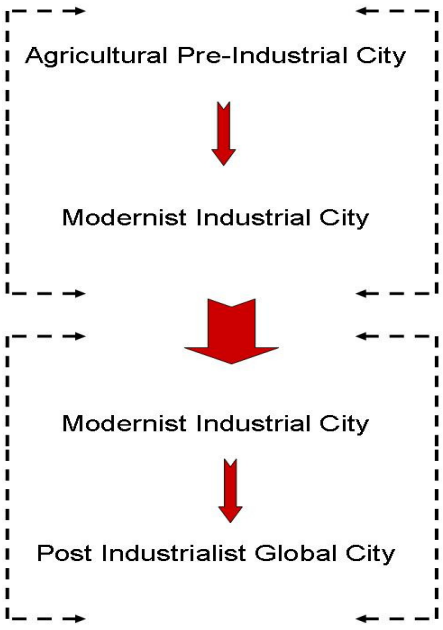

Figure 17 Change of the City

(Source: This schematization is synthesis of reading: Gürler, 2002:48-49)

Gürler (2002:48-49; 2003:115) focused on the four main categories of urban regeneration approaches throughout the world. She underlines that; there is a shift in politico-economic

motive from national development to global integration in urban planning within time. (See Figure 18)

1. Development-led autonomous political economy of the world led to an urban renewal approach intended for modern cities.

City- Beautiful approach: clearance and rebuilding gained importance.

Bauhaus approach: clearance and rebuilding gained importance.

CIAM approach: segregation and historic preservation gained importance.

2. Industry-led united political economy of the world led to an urban rehabilitation approach intended for industrial cities.

UNESCO: industrial and socio- economic development is the primary motive and ICOMOS approaches: Industrial and socio- economic development is the primary motive and concentrates on historic preservation and urban conservation.

3. Redevelopment-led liberal political economy of the world brought about an urban revitalization approach intended for post-industrial cities.

UNESCO, CORDIS and ICOMOS as well as HABITAT gave importance to urban revitalization, which included land-use changes for recovery of urban space, historic preservation and urban conservation.

4. Capital-led integrated political economy of the world turned into an urban regeneration approach intended for the world cities.

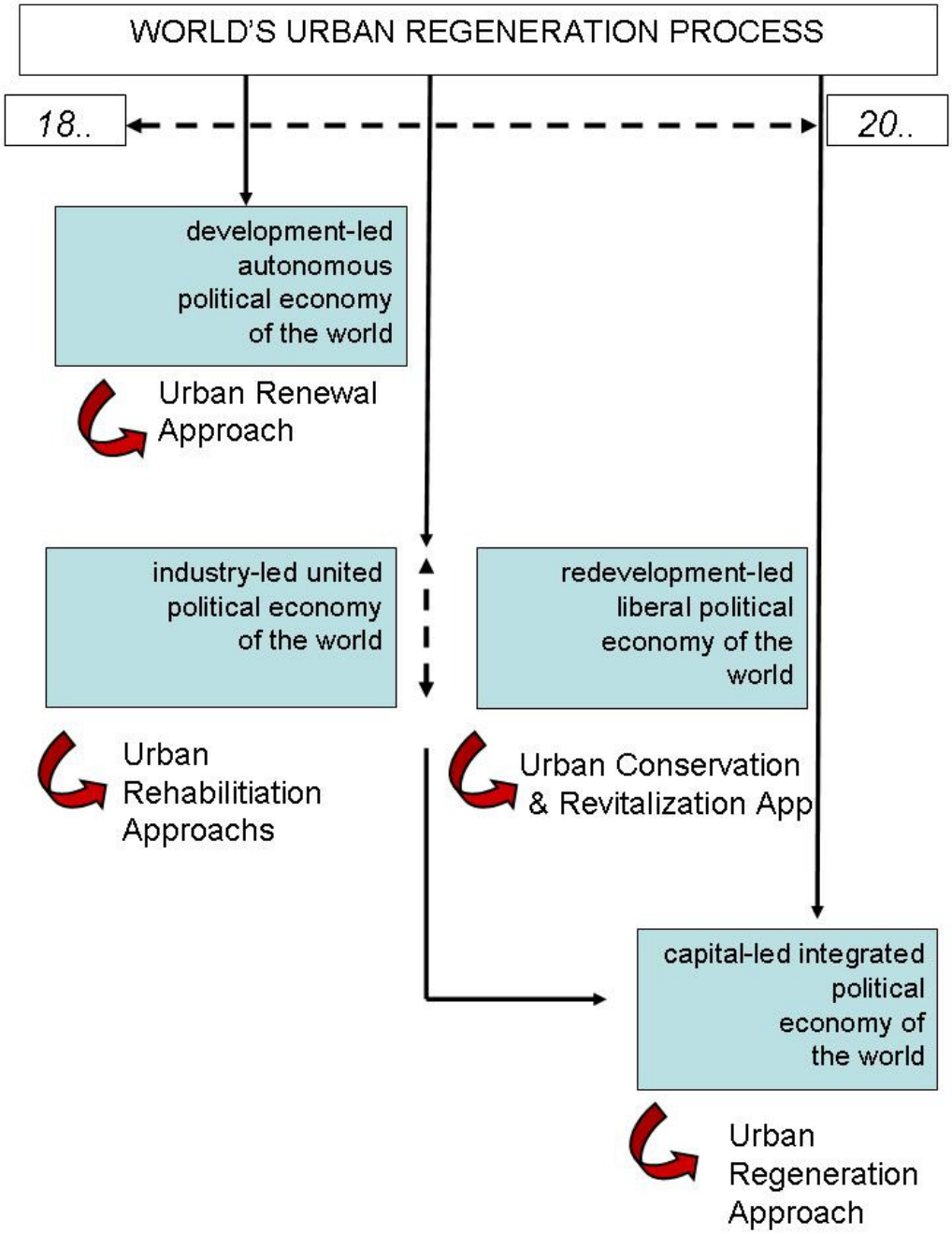

Figure 18 World's Urban Regeneration Process

(Sources: This schematization is synthesis of reading: Gürler, 2002:48-49)

The results of great transitions as social, cultural and economical issues have been shaped the urban regeneration process all over the world up to now. Therefore three regeneration waves can be presented within the world in order to determine the history of the urban regeneration process according to centuries. (See Appendix B)

Yıldırım, (2006: 9) gives the changing content of the urban regeneration according to the meanings and principles of it. Urban regeneration that has been discussed in different ways since its first coming out separates in sub-types under various names due to the intervention ways and grades. Innovation of the regeneration of this process can be handled as intervention types. There are too many types of urban regenerations (urban renewal, urban rehabilitation, urban reconstruction, renovation, revival- revitalization) under the heading of "urban regeneration" concept Linchfield, 1988:21; Özden, 2000: 257, Tekeli, 2003:5). These types vary according to the strategies, visions, aims and methods of an urban regeneration projects. Urban renewal is often controversial and often involves the use of eminent domain, a good legal instrument to reclaim private property for civic projects. While envisioned as a way to redevelop residential slums and blighted commercial areas, "renewal", is mired in controversy. In the second half of the 20th century, regeneration often resulted in the creation of urban sprawl and vast areas of cities being demolished and replaced by freeways and expressways, housing projects, and vacant lots, some of which still remain vacant at the beginning of the 21st century. However, the term "urban regeneration", in this study, is referred to as the general representation of attitudes against existing structure and various types of interventions to it such as renewal, redevelopment, revitalization, conservation, improvement, clearance, development etc. "large urban distressed areas" were defined as comprising a considerable part of a city, suffering from multiple deprivation such as: degraded housing; inadequate or sub-standard facilities; rundown or derelict industrial estates, environmental risks and problems; unattractive and disconnected urban structures; high unemployment and week social cohesion, which is detrimental to the sustainable development of the city as a whole.

As a general expression, urban regeneration could be determined in this study in order to renew the unsafe, building stock and high risk parts of the city and; to regain the city at physical, economical and social fields. On the point of the planning interventions, urban

regeneration has interdisciplinary and multi-sectoral concept including physical, social, economical and legal process.

2.5.1. Reasons for Urban Regeneration

Reasons of urban regeneration include both natural and man-made dimensions owing to the fact that cities take shape and renew in time according to both the ordinary developments of the urbanization and as a result of the extraordinary events. Industrialization, migration, rapid urbanization and modernization are the basic reasons of the change in both the world and Turkey. In addition, growth of the building stock in cities which has physical, socio-economic and socio-cultural results also effect and shape the urban development. Cities also renewed (reshaped) in the ordinary process of the urban development tendency at central business district (CBD), at historical places, at squatters houses places and risky areas of cities against natural disasters. All manner of the occupations, procedures and principles of the urban regeneration projects at the cities are the ordinary reasons of urban regeneration process. On the other hand, natural disasters and wars destroy the cities because of the fact that extraordinary conditions might be appear after the war or a devastating disaster happened. Therefore, these destroyed areas are required to be renewed (See figure 11).

Today economical and social developments constitute the urban regeneration attempts because of the fact that these improvements increase the urban risks and physical destruction persistently. Balamir (2002: 66) underlines the fact that, the urban regeneration attempts increase the necessity of reuse and reorganization of either “locational”, “stock” or “local society” assets. Since city is dynamic and complex systems, physical social, environmental, economical, legal and ideological factors effect the city, and also, city effect these conditions exactly.

2.5.1. Ordinary Reasons of Urban Regeneration

Ordinary reasons of urban regeneration come into existence as the consequence of the development progress of any city at any time. There are continuous reasons which vary according to the time and space. These reasons which are not independent can trigger urban

regeneration at any moment (Demir and others, 2005).These are can be classified as following:

- The change of the social, economical and technological structures of the world.
- Searching the ways of integration with the global world
- The changes in the national, regional and local centers.
- The increase in economical welfare and capital accumulation.
- The pressure of the changing consumption structures in the direction of regeneration.
- The revolution of the National, Regional and local development decisions.
- Value in exchange of the land with the urban rent potentials.
- The people who expect value in exchange of the land with the regeneration projects.
- The local political pressures
- The change in the spatial dynamics of city
- Population Growth in the city.
- The behaviors of the upper and middle income groups for residential area choices.
- The locational choice of new prestige area in the city.
- Technical and social infrastructure investments
- The need for change that has already been in the nature of human being and city.

25.2. Extraordinary Reasons of Urban Regeneration

How do extraordinary factors effect the emergence of urban regeneration?

Extraordinary events have devastating results both in urban economy and physical environment (See figure 19).

- Wars (As cited in Kuban (1995:15) demolished parts of the European cities were revitalized after 1st and 2nd World Wars. For example, Berlin)
- terrorism (The terrorist attack on the World Trade Center in New York City has shaken the world)
- big fires (The big fires in İstanbul in the history were demolished all parts of the city.)

- and natural disasters can be handled in this category. Since the role of urban regeneration in reducing natural disaster risks (especially earthquake risks) is the main frame of this study, 'urban regeneration' and 'urban risk' will be frequently discussed in the following chapters of this study.

Urban regeneration concept after an extraordinary event takes new meanings as recovery, urban reconstruction, rehabilitation and redevelopment in the literature.

Natural disasters are one of the extraordinary reasons of urban regeneration. The part of the city has to be renewed at the regions where are vulnerable to the high probability of natural disaster risks. This kind of urban regeneration process aims to build earthquake-resilient cities with reducing the disaster risks. (See chapter 4 for detailed explanations.) It has to have a comprehensive mitigation process. This long-term based progress should be pioneer level of reducing disaster risks. On the Other hand, urban regeneration might be implemented before any disaster. The purpose of the reconstruction stage before natural disasters is to build earthquake-resistance against probable disasters. Urban regeneration should be determined as a tool in order to utilize safer settlements in this process. Uncontrolled population growth, rapid urbanization, environmental degradation, ignorance of the awareness and uncontrolled construction make the cities of our country unsafe against natural disasters. As a result of people's getting to live in the risky and unsafe settlements the disaster risks are increased. However natural disaster lost can be ignored by utilizing urban regeneration approaches.

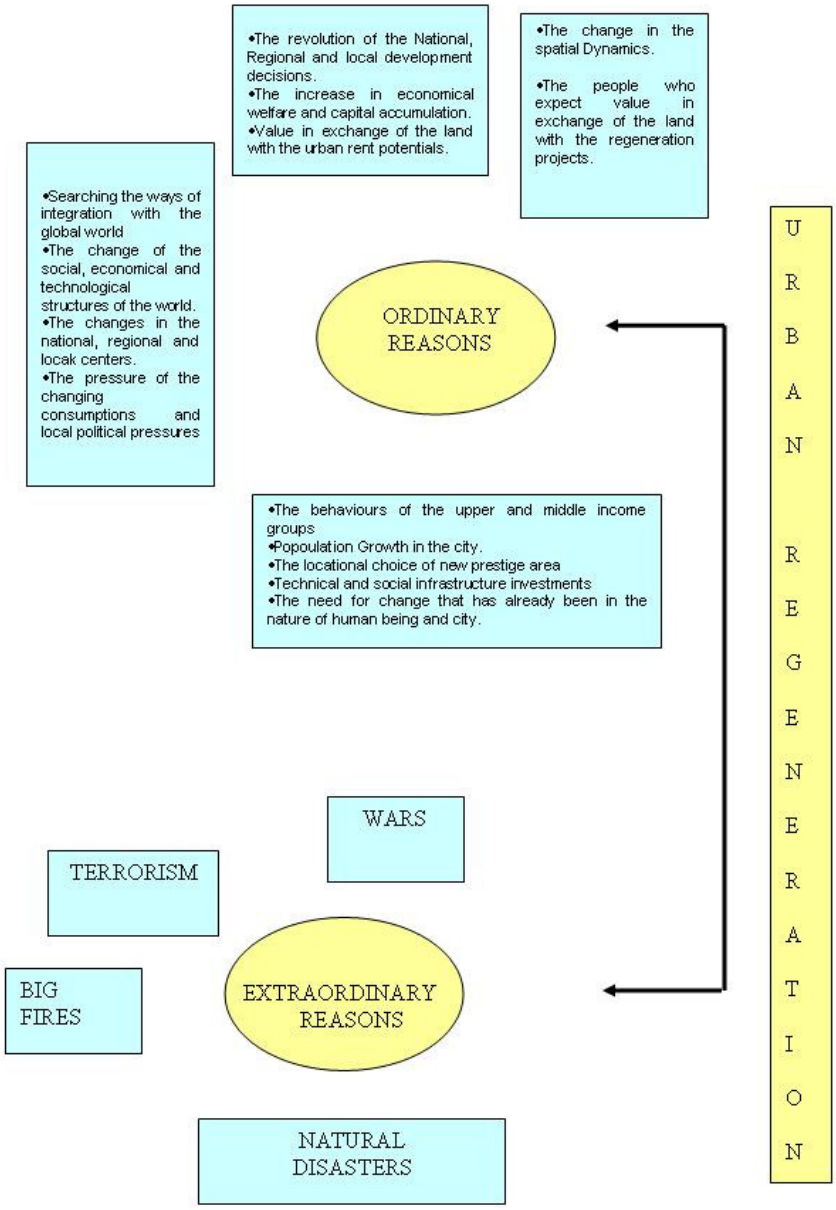

Figure 19 Ordinary and Extraordinary Reasons of Urban Regeneration

(Source: This schematization is synthesis of Genç, 2005; Demir and others, 2005)

2.6. Concluding Remarks

Firstly, three National Reports are evaluated as to the strategies related with the reduction of urban risks by underlining the urban regeneration fact. Alternative methods for new approaches of urban regeneration are discussed in this section with a scientific method for a model of earthquake –based urban regeneration. An alternative method for urban regeneration model at the earthquake proton area is searched in this part of this study. Principles of urban regeneration methods at high risk areas are determined in this section and two alternative solutions way is emphasized.

Secondly, it is worth to say that, urban regeneration implementations give opportunities for the purpose of building safer settlements against natural disasters, determination and analysis of the urban risks and mitigation of the risks. It is obvious that physical and social structure of the vulnerable reasons of the city has to be determined and mitigated in order reach the target of sustainable disaster risk reduction. Therefore urban regeneration has to have the primary priority of risk reduction. The aim of disaster risk reduction is required to make an integrated effort in a scientifically studies absolutely for long term. For that reason, searching the ways in order to implement the precautions of the risk reductions in a systematical integrity and scientific approaches should be developed.

Consequently, the discussions in this chapter are based on the different definitions of the urban regeneration concepts in the content of the first sub title. The changing context of urban regeneration term is expressed in the historical period with the reasons of urban regeneration in this section of the study.

There should be special production strategies and policies for urban regeneration planning because of the fact that urban regeneration is implemented in the built areas where physical rehabilitation and social transformation are required. For this reason, urban regeneration planning requires different legal tools, regulations and policies then those of traditional urban planning.

Unplanned developments in the overgrown cities which are in the limits of carrying out their functions and overpopulation existing in the risky earthquake regions increase the earthquake risks. İstanbul can be presented as an example. Although, the decisions taken for population, settlements and industry etc, have increased the earthquake risk, Istanbul still preserves its attraction because of employment and industry potential. Hence, a contingency plan which is a data set of geological studies, evaluation of the past experiences of earthquake damages, risk identification scenarios should be completed immediately.

In order to minimize the earthquake damages, pre-disaster activities should be generated as a new approach, sustainability of the public awareness, education and organizational activities should be developed. In addition to NGO's should be encouraged for the purpose of risk reduction activities.

CHAPTER 3

THE "ROLE" OF PLANNING IN DECREASING EARTHQUAKE RISKS

This chapter of the study introduces three sub-titles. The role of planning for the purpose of reducing the earthquake hazards has been discussed in the first sub-title of this chapter. Aims of the "Earthquake Resistant Planning" have been underlined in the second section of the chapter. Lastly, the role of planning managements (Central and Local Managements) while reducing the earthquake hazards has been studied in this chapter of the study.

To prevent an earthquake or to predict the exact time of it is impossible in today's conditions, however, it's possible to know where the earthquake will occur and what its magnitude will be. Turning of an earthquake a devastating disaster can be avoided by taking some precautions as evaluating both existing information and the results which will be taken from the coming researches. These precautions are available in order to prevent an earthquake become a devastating disaster only if the risks are minimized. In order to achieve this strategy, urban risks should be determined at national, regional and local levels. And then, the solution ways should be searched in order to reduce the urban risks. National, city-wide and neighbourhood level action plans should be developed as soon as possible. Studies that minimize and avoid the effects should be done immediately before a natural event has turn into a devastating disaster. This requires an effective physical planning in general. In this point, all the local risks besides the disaster risks (fires caused by earthquakes, landslide, and accessibility of the road network as a result of closing of roads) should be determined carefully and precautions should be taken to avoid these risky situations in the spatial decisions while planning.

Plans are effective to the extent that there is legitimacy and compliance by different actors and there are also relation between national legislation and local plans. According to ESPON (2nd Interim Report, 2003:112), it is obligated to take place for planning to have an effect both horizontal (local cooperation and compliance) and vertical (functioning of the planning hierarchy) integration needs to take place. These two dimensions are illustrated in figure 29.

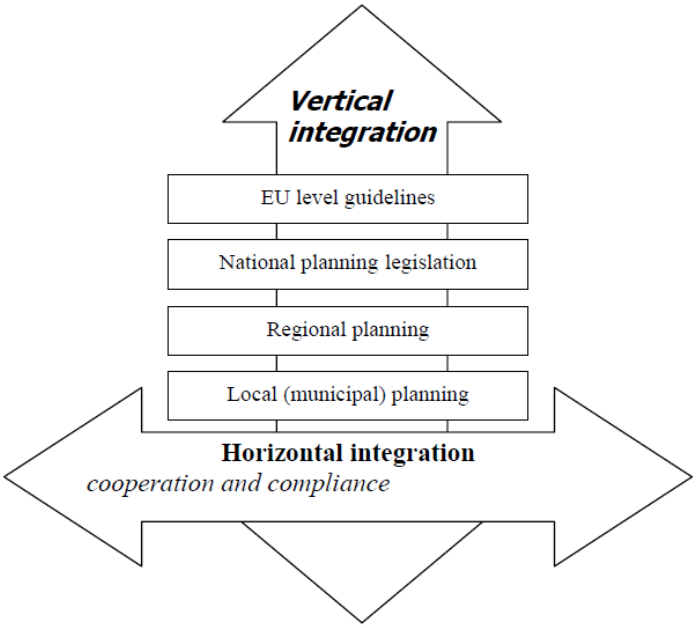

Figure 20 Vertical and horizontal integration in planning
(Source: ESPON, 2nd Interim Report, 2003:112)

Balamir (2005:28) underlined the fact that one of focal topics now being planned in Turkey is the issue of improvement of building stock which especially came to the agenda due to earthquake risks. Determining an urban improvement policy in Turkey, preparing legal arrangements appropriate with this, creating implementation tools and resources, defining organization models and processes which will bring relevant partnerships together as a prior task to be fulfilled in preparation for following decades. (Balamir, 2005:28)

"*Land Usage Planning*" is one of the main principles for the role of planning. UNISDR (2002) explains the "land-use planning" as the means and assesses of the values or limitations of various options in which land is to be utilized, with the corresponding effects on different segments of the population or interests of a community taken into account in resulting decisions

According to UNISDR (2002) land-use planning involves mapping studies, environmental and hazardous analysis. Moreover, it has been indicated in the report that land-use planning might guide to mitigate disasters and reduce risks by discouraging high-density settlements, control of population density and expansion, and in the sitting of service outs for transport, power, water, sewage and other critical facilities.

Thereby, the physical planning can be defined as the arrangement of relations between society and economy in different levels of spatial units. Furthermore, social welfare can be increased with physical planning in order to develop a livable environment. Seeing that, the physical planning primarily gains a great significance in preventing and declining disaster effects, especially in developing countries due to the rapid increase in population and the rapid urbanization.

As to the definitions of land use planning, the main principle in land use planning is determined as the use of land resources in the most rational and coordinated way by taking earthquake and its effects into account. Gülkan, (2000) describe the process of land use planning. It includes a complete management-planning-implementation movement which requires management decisions and inspection on usage and functions of land beginning in the overall land and completing with special regulations on constructions in addition to land researches and analyses. Therefore, land usage planning is a complete management movement relating to decline of natural disasters.

According to Balamir (2001:29), the most relevant efforts and investments for reducing the harms from earthquake hazards are those carried opt at settlement levels. Moreover he indicates that, the most appropriate level of collective monitoring of earthquake risks in technical as well as administrative and political terms remains at the city-scale descriptions

of risks, and actions for mitigation could efficiently be administered at this level. Figure 30 represents the urban mitigation efforts and steps that could be covered mostly within planning and land-use control activities

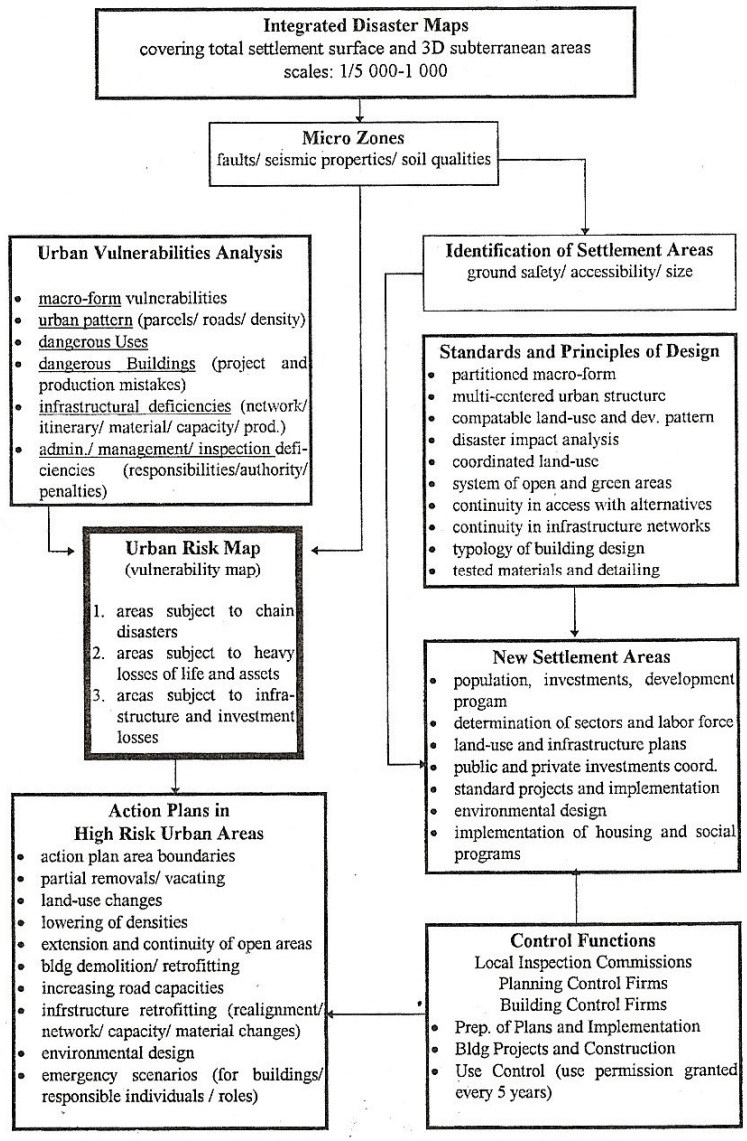

Figure 21 Land Use Planning in Settlements of High Risk

Source: (Balamir, 2001:30)

It is a need to identify the elements of an ideal risk management process for the integration of risk management into the spatial planning process. ESPON (3rd Interim Report, 2004:12) identified the ideal risk management process as a part of the spatial planning process by the following elements:

1. Scientific basis:
2. Political decisions
3. Implementation process

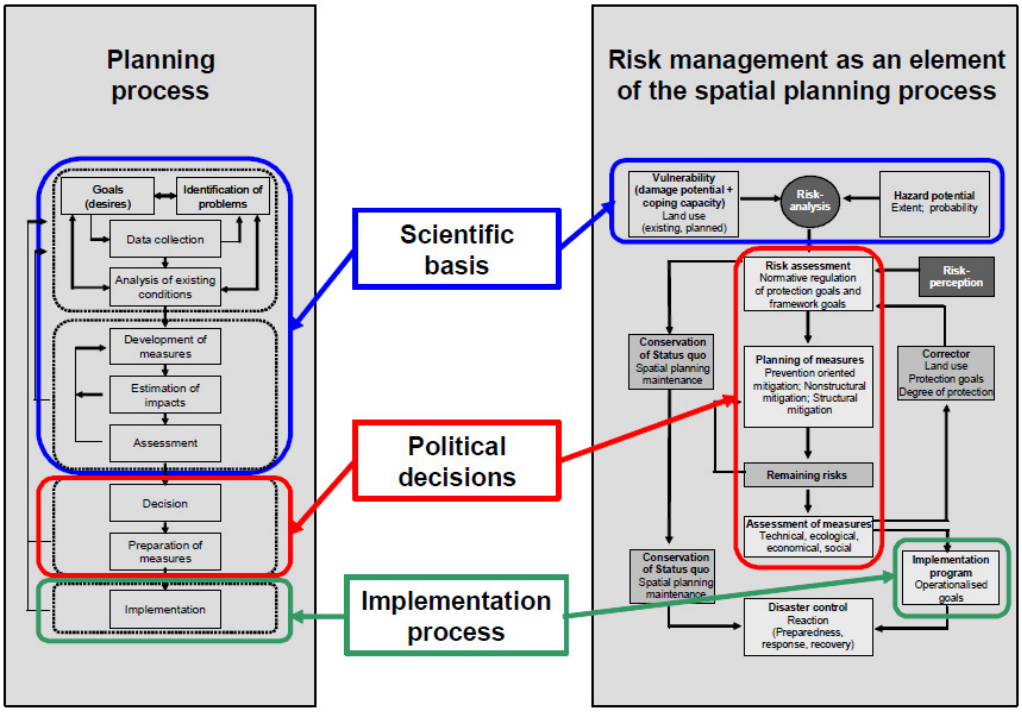

Figure 22 Interrelationships between an Ideal Planning Process and Risk Management (Source: ESPON, 3rd Interim Report, 2004:12)

The measures to be taken against earthquake risks should be taken into account for a successful land use planning. The essential definitions for the specific measures are determined by the authors in the literature as following:

- ✓ Micro zoning map data should be taken into account in settlement areas located in earthquake zones while preparing main city plans (Şengezer, 1994). Areas

displaying high earthquake risk and differing in terms of risk potential should be determined and low risk areas which are appropriate for settlement should be brought into use according to seismic micro zoning studies in main city plans prepared.

- ✓ Şengezer (1994) underlined the process of the spatial choice of the residential areas. The residential areas should be planned on required distances from critical business places where disasters like fire, explosion etc. may occur and by taking required measures.
- ✓ The areas with high earthquake risk or lowland sections of settlement areas should be used for recreational purpose green areas like parks, sports fields (Sayın, 1986)
- ✓ Sayın (1986) focuses on the reserve areas that should be determined in a way both to meet post-earthquake requirements and to meet potential development. These areas to which temporary shelters and temporary health and other technical equipments will be sent during and after earthquake should be planned in a way to serve as storage areas for food allocation, future aid materials. Minimum infrastructure of these areas should have been completed, their interaction with main transportation network should be established and surround the settlement in form of belts.
- ✓ Ercan (1994) stated that energy, transportation and water network lines should be passed through the areas which will not cause sudden dangers in case of breakage in these lines. Installing these lines underground is the best solution. These are the initiative measures in order to prevent the secondary hazards after an earthquake occurred.
- ✓ Every settlement area should have two entrance and exit points. Alternative and reserve areas developed against the possibility of occurring un-removable barriers should exist in the transportation system (Sey, 1999) because of the fact the main traffic arteries will be closed by the collapsed buildings at a possible earthquake.
- ✓ Sayın (1986) underlined the locational process of great and significant buildings. These great constructions should not be constructed near to radio stations having

500 KW transmission powers, on marshy ground flood sites, sites with a high ground water level, filled sites, earth sliding sites and sites with a sharp slope change. According to Ciborowski (1976), concentrating population or economic activities in one or a few points should be avoided in high and equally distributed risk zones. If an earthquake occurs in such a point, its results may be desperate for life and economy of a whole region or country. On the other hand, seismically appropriate areas should be selected for industrial areas and heavy construction sites in accordance with the urbanization issues. The industrial areas should be planned in a few different locations in order to prevent them from getting chaining damage from earthquake and its effects.

- ✓ In addition, the educational units and other social service areas have the possibility of high density population for a possible earthquake. For that reason, these places should be planned in places which will not get damage from dangers of earthquake.

While planning at high risk areas, it is essential to develop standards not only for population densities but also street and road design, building design. Furthermore, The green belts should be put in parallel to road axles. These green belts to be put will give the possibility of using as motor vehicle or pedestrian ways when required. Moreover these green belts have the advantage for the infrastructure systems. The main networks of the water and gas systems should be installed not below roads but below green belts. Urban risks can be detected by overlapping micro zoning maps and land usage maps. Priorities of regions risks of which are detected as a result of an interdisciplinary common study including an architecture, engineer and sociologist in coordination of the planner can be determined. Project zones are determined in order to use 'urban regeneration' as a tool in eliminating pre-disaster risks. The aim is neither to create image-oriented nor rent-oriented settlements. The sole aim is to move people in earthquake resistant settlements through different designs with the same population density. A consciousness regeneration is required in form of designing spaces lived in without ignoring natural disasters. The organizational and financial structure should be decided emergently after determination of urban regeneration project zones. DASK (Institution of Natural Disaster Insurances) or Global Disaster Funds should be used in order to supply the financial process of urban regeneration.

Unless large-scale maps which displays possible dangers during earthquakes and the multi dimensional geological surveys (Micro-zonation maps) do not exist in different levels of planning units (region or settlement unit, city, village) there is no possibility of decreasing the earthquake damages practically. The decisions for the purpose of not opening the wrong areas for settlement and elimination of existing risks will be given in these comprehensive plans.

3.1. Relationship between Planning and Earthquake

There are several questions that should be searched answers. These questions can be same as followings:

How will we conduct disaster plans within the city planning?

How should plans in regional, country-province-city based levels be? What are the different indicators that effect the every levels of the planning units?

How should central and local scale action plans be?

Earthquake is a natural event that can not be known where and when it will occur with today's technological and logical level, earthquake itself is not disaster. Urban planning includes previsions and designs that guide the economical, social and physical conditions and opportunities of an area. Any mishaps in these plans are the noticeable factors that turn an earthquake into a devastating disaster (Arkitera, 2008).

We can minimize risks but these risks never would be "0". For that reason, preparation for emergency studies should also be in scope of risk reducing. Special care should be taken for these factors both in new settlement areas and urban regeneration projects for an earthquake sensitive planning.

Pre-disaster planning approaches should include two subcategories. First is based on the idea of risk reducing. (Not opening zones wrong for settlement, elimination of existing risks, using urban regeneration as a tool for this purpose). Pre-disaster studies focus on

1. the determination of earthquake risk including earthquake potential, danger and vulnerability studies which are under earthquake risk
2. the determination of the post-earthquake planning of living areas.
3. and reducing earthquake damages in national, regional and local scale in direction of this risk orienting to overcoming an earthquake with minimum damage and of.

Another one is based on the preparation for emergency level. (learning from sharing's of past experiences, public awareness-education, early warning systems.

According to Balamir (2001:34) developing strict standards and rules of conduct is a double-edged sword which may generate its own problems in due course. Moreover, he indicates that this may prove more convenient to make recommendations in terms of principles for safe urban environments**.** Below mentioned analyses should be evaluated in the areas, where are prone to earthquake risks:

Determination of High Risk Areas: Micro-zonation and urban vulnerabilities analyses are to provide the bases for the determination of areas where no development should be allowed, no residential buildings should be allowed, and those where controlled building activity could be permitted. (Balamir, 2001:34)

Fragmentation of the Urban Macro-Form: This recommendation refers to the physical limitations of urban districts (less than 1000.ha) and population gross densities (100 persons/ha). Urban districts are recommended to be located at 5-10 km depending on the population of settlement. If existing values are greater, densities are not to be increased by any means. (Balamir, 2001:34)

Obligatory Earthquake Impact Analysis: In the locational decisions of tourism, industry, large sc ale storage of flammables, infrastructure installations, etc. the preparation of earthquake impact analysis must be held obligatory. (Balamir, 2001:34)

Compatibility of Land-Uses: Mixed uses under this pretext are avoided to the extent possible. Residential districts are separated by wide roads and/or strips of green areas. Commercial, health, administrative, cultural centers are distributed evenly rather than being concentrated in space. Land-uses with risk potential are distanced by 150m wide strips of green. Protected buildings of cultural and historical significance are particularly separated and retrofitting projects prepared and implemented with high priority. Mega-structures are avoided to the extent possible, rather smaller units of schools, hospitals, sports centers, industrial units, prisons, etc. are allowed. No power lines, pipelines, energy exchange station s are allowed in residential districts. (Balamir, 2001:34)

Land use Analyses: Analyses like ground structure, class, slope status of land, underground water level, debt of rock beds etc. loose earth structure, steep slopes, high underground water carry the risks of landslides and weak soils. Especially alluvial soils convenient for agriculture are the most risky regions for earthquakes. In addition, different functional usages should be separated from each other with green bands, and these systems should surround settlements. Open and green areas should be created in a way to form buffer zones preventing expansion of earthquake dangers like fire. These areas may be used as areas for tent cities or as areas where needs are met psychologically in stage of emergency aid. For this aim, parks, indoor and outdoor play and education grounds for children may be used as sitting places, communication and other recreational facilities.

The most significant issues of physical planning are use of volume and area in an appropriate and coordinated way. These issues also include protective measures to be taken during the planning against natural disaster dangers like earthquake. Primary measures required to be taken relating to earthquake during the physical planning can be summed up as; (1) deciding on right site selection, (2) determination of areas displaying different dangers, (3) taking appropriate site use decisions in accordance with priorities of factors to be protected.

As it has been discussed above, following main protective measures should be taken while giving site use decisions in order to reach these conclusions (Ergünay, 1977)

- The areas with very high danger risk may be used as agricultural lands or inner-city green sites. Dense settlement and industry areas may be transferred to the areas with minimum risk,
- The industrial zones may be isolated from dense settlement areas with open green areas or other types of open areas and sports complexes etc.,
- Dense settlement areas may be divided into smaller sections with open areas or green bands.
- To gather all administrative and management units in a single construction unit may be prevented,

Synchronization of Land-Uses: Some uses and key buildings like hospitals, administrative and communications units, petrol stations, food industries, etc. need be distributed evenly, whereas other clusters of uses like local school, post-office, multi-storey car parking, health centre, public toilets, etc. might at the district level be coordinated at safer zones. (Balamir, 2001:34)

Population Density: Density should be kept as low as possible in areas with high risk level. If the city is located at the risky area, industrial investments should be leaded to the least risky areas by regional plans. Density should be kept as low as possible in areas with high risk level. Concentration of population or economic activities in one or a few points should be avoided in regions with high earthquake risk, increase in population density should be prevented and special care should be taken to the issue of type and location of new investments to be made.

Geological and Geotechnical Maps- Seismic Map are the maps displaying information like detailed geological features, lithological borders, active fault lines and possible landslide areas etc.

S*ignificant Public Constructions:* Locational choose of emergency canters such as hospitals, schools and open areas as well as adequate number of staffs for the purpose of immediate response to provide medical care, accommodation and security for the victims who are effected from any hazard should be determined in the hazard maps and risk maps.

In relation to the ESPON definition, the hazard map and risk maps is done in two steps. First, hazard maps are created, and in a second step the combination of hazards with regional vulnerability lead to the emergence of risk maps to determine the total risk potential of a region the set of single risks identified for the region has to be aggregated. Due to the methodological problems of aggregation and in order to avoid the loss of information. The aggregation of this process is analyzed in ESPON, 2nd Interim Report (2003: 13) as following: (See Figure 32)

1. Hazard maps for selected hazards
2. Risk maps for selected hazards
3. Synthetic hazard map:
4. Synthetic risk map:

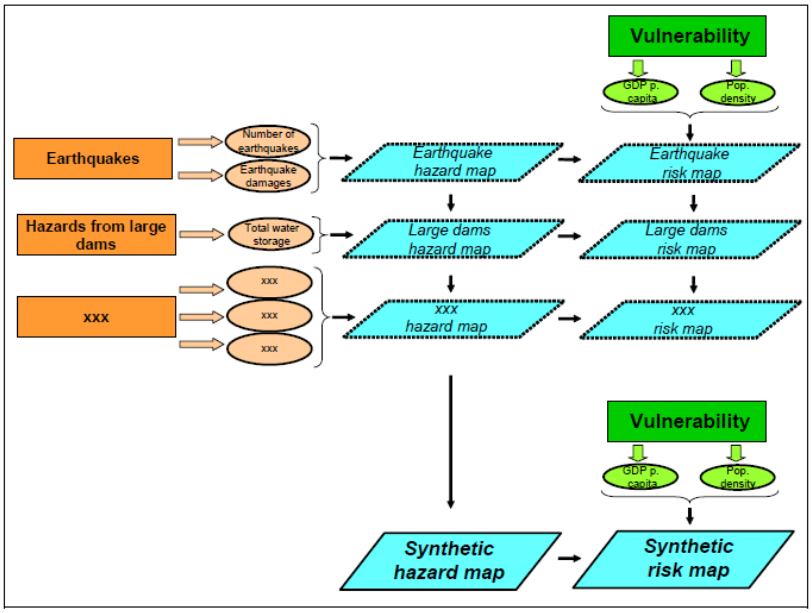

Figure 23 Rationale for the Development of Hazard Maps And Risk Maps

(Source: ESPON, 2nd Interim Report, 2003:14)

Risk maps are determined in ESPON (2nd Interim Report, 2003: 5) as combination of the potential of one hazard or combined hazards and regional vulnerability, which consists of the components “GDP per capita” and “population density”. Risk maps can either show the regional risk towards a certain hazard or the aggregated risk towards all hazards.

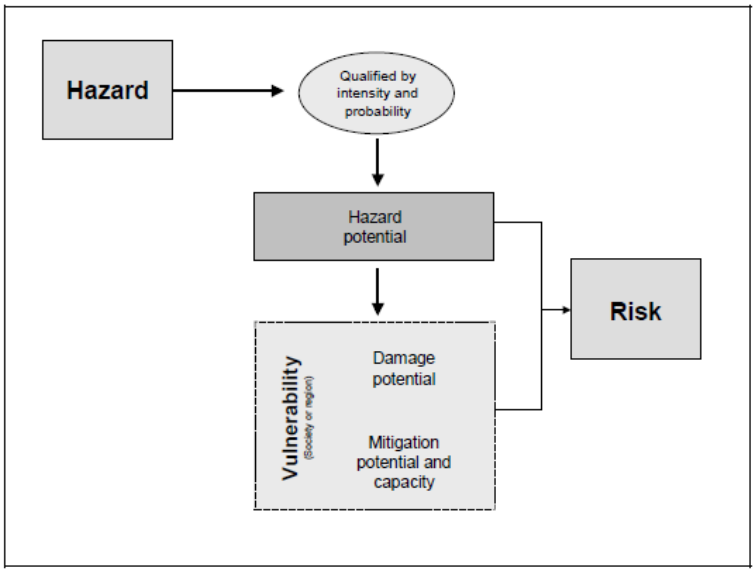

Figure 24 Hazards, Vulnerability and Risk

(Source: ESPON 2nd Interim Report, 2003: 5)

Building Analysis Density and vulnerability analyses should be held in this kind of analysis. Potential damages should be determined for each functional usage and construction type; construction date should be taken into account while analyzing the whole residential regions as well as other regions. What is more, cultural and historical values should also be examined in this context of analysis. A similar analysis was prepared for CP Studio Project in 2006. (See Figure34)

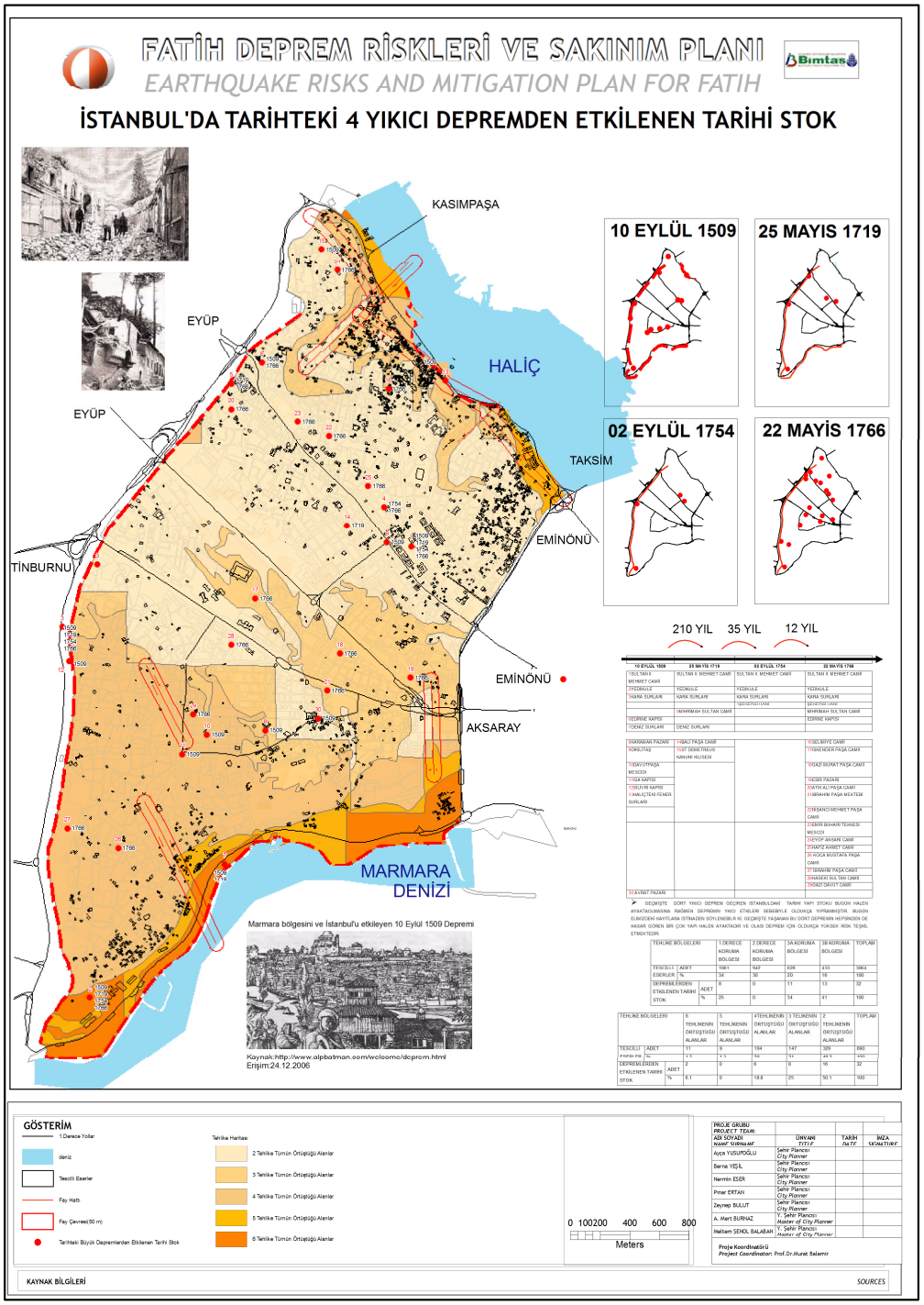

Figure 25 Historical Stock in İstanbul Affected from 4 Devastating Earthquakes

(Source: It was prepared for CP Studio Project in 2006.)

Transportation system: Transportation and communication systems in functioning situation become significant for emergency just after an earthquake. Therefore, roads should be constructed as wide as possible in planning, and optional road system should be created in order to provide accessibility to significant public constructions. Furthermore, basic measurements should be developed with plan decisions for distances in the ratio of height of a building in order to prevent roads from being closed with building wreckages.

Network of Green Areas: Continuity of green areas, which may include sports areas, urban parks, natural sites protected, shoreline strips, open area car parks, etc. may prove a major asset at the instance of a disaster. Multi-storey car parks recommended where green areas meet major roads. (Balamir, 2001:34)

Means of Access: Every district is to have at least two independent means of access. Network configurations rather than hierarchical structures ought to be preferred in the road system. Several connections ought to be provided to the national motorway system. Width of roads should be wide enough to take into account the debris of collapsed buildings and falling trees. Recommended widths are (HI +H2)/2 + 15m. No bridges, tunnels, fly-over etc. is to be allowed without alternative connections. Special arrangements are necessary on roads to evacuate specific districts. Surface parking should not be allowed near buildings, closer than H/2+ 1Om. (Balamir, 2001:35)

Infrastructural systems: All infrastructural networks are to target reserve storage and alternative routes. Networks are not to be allowed cross fault lines. If inevitable these crossings are to be minimized in number with special precautions. Storm drainage and waste-water systems must be kept separate and both distinct from the itinerary of drinking water lines. Waste-water must in no case cause pollution above or below ground. Power network must have alternative connections to the national interconnected energy network. Natural gas lines and pressure change stations must not give rise to environmental problems and kept distant from residential districts.

Public or private buildings designated as 'Buildings of Special Relief Functions' to be intensively used after an earthquake must be periodically audited in a comprehensive manner and usually in terms of: (Balamir, 2001:35)

- location within the macro-form of the city
- geological nature and properties of its site
- proximity to different types of faults (major/ minor; active/ dormant; lateral! submerging etc.) and likely impacts
- position with reference to the network of primary roads
- vulnerabilities and disadvantages with reference to primary infrastructural systems
- properties of design by project
- constructional properties and resistance capacities as built
- neighboring buildings and their current uses
- the current use and contents (dangerous/flammable stocks stored etc.)
- the current users and the number of users under relief services (capacity for overcrowding)
- the existing distribution of functions and persons, and means of escape
- availability of warning, security, and response (e.g. install and fire-extinguishing) systems
- the installment standards of wiring/ piping/ mechanical equipment etc.
- the standards of furnishing and detailing
- facility management standards (Balamir, 2001:35)

Infrastructure network plans of cities should be displayed in analysis maps. Telecommunication system should be developed in a way to ensure all settlement units to connect to the center or with each other; it was planned with alternatives against destruction on energy or wind system which will cut off during the time of an earthquake. Alternative energy sources and transmission lines should be prepared by integrating national and regional energy supply systems.

Overflow maps: Maps displaying overflows or floods which may be caused by earthquakes. Stream overflows or lake, seawater floods are secondary risk issues expected in case of earthquake. Possible liquefaction areas in case of an earthquake in the region should also be determined by taking into account earth structure of locality and hydrogeology maps. Unexpected hazard for İstanbul might be tsunami as a secondary natural disaster after an earthquake.

Determination of facilities producing dangerous wastes which may cause critical environmental pollution: Facilities producing dangerous wastes to be damaged from earthquake, storage areas of such materials, explosive material storage tanks, liquid petroleum plants, combustive, explosive facilities and facilities including toxic materials for underground water should be indicated in maps and measures should be developed against possible risks. Leaving required protection bands in the planning is important in terms of keeping damages to environment in the minimum level (Kiper, 2001).

All the above stated subjects should be taken into account for the earthquake disaster scenarios in accordance with the results of these analyses. Possibility of physical, economic, environmental and social effects of an earthquake to occur in any settlement are tried to display with vulnerability or earthquake risk solutions to be carried out here. Then, possible risks can be reduced in one hand and dimensions of the problem will be defined for public opinion and decision makers on the other hand with disaster sensitive plans to be prepared through based on them.

Sey (1999) underlines the relationship between planning and earthquake risk reducing by defining national and regional precautions as follows:

Functions in national level;

1. Establishment of a continuous emergency aid organization depending on a center,
2. Establishment of a disaster information system,
3. Preparation of regulations related with disasters, buildings and settlements,
4. Gathering damage assessment details and entering them in information system,
5. Creating a team with continuity for damage assessment, post-disaster social inspections and reconstruction,
6. Establishment of a laboratory for material and system experiments,
7. Giving education for architects, engineers, city planners and other relevant occupational groups,
8. Giving education for general public to be protected from disasters,
9. Approval of settlement plans

Functions in regional level;

1. Management and coordination of regional disaster prevention plans,
2. Auditing studies of local administrations related with disasters,

3. Integration of pre-disaster measures of local administrations,
4. Conducting social inspections after disasters

The decision of the transportation, functional areas and densities are determined in Main plans, which are the significant tools in reducing earthquake disaster effects. Since such a plan is leading for construction of a city, all physical measures which will protect city against earthquake disaster or reduce effects of intense earthquakes should be conveyed into the master plan and made an integral and obligatory part of it.

The most significant point to be cared in making brick and stone setting masonry construction as resistant against earthquake in earthquake zones is location and size of architectural design, door and window ways to be constructed on walls. Length of total door and window ways along any external wall of a construction should not exceed 40% of total wall length of this side. (BİB, 1997)

17 August 1999 Kocaeli earthquake affected a city which can be defined as "metropolitan" and its surrounding settlements for the first time in Turkey. It was observed that urbanization and construction process sustained without taking care about natural pattern does not only created negative environments in aesthetic term but also causes many problems in technical means. Rapid continuity of dense urbanization in cities settled on fault lines like Izmit, Yalova and those located near to fault lines like Istanbul, Adapazarı increased the size of the disaster. Thin and long sectioned construction and medium size city densities were evidenced in narrow and small parcels especially on coast line, and such a construction also caused static problems. Failure in applying regulations and scientific realities related with ground and fault lines in to practical life, and use of construction sector as a significant tool of economy and politics increased the problems (Kesici, 2002). As a result of all these problems, 17 August 1999 Kocaeli earthquake inflicted smooth, medium and heavy damages in the structural system and caused destructions. According to her it was determined that majority of these constructions are 5-8 storey, mostly reinforced residences and commercial buildings which had been constructed during the last few years or under construction so close to or even on fault fractures.

Similar areas gained by filling active fault lines, stream beds, overflow areas; agricultural lands, river deltas and sea were destroyed in these areas with high risk of earthquake and then opened to housing and settlement. Most of constructions like industrial facilities, residence units, highways, bridges established on these areas suffered from a great damage with the earthquake and caused deaths.

Constructions were turned into multistory constructions, illegal and uncontrolled constructions were legalized with development amnesties, and sustainability was gained in development amnesties with some implementations like amendment improvement plans (Kesici, 2002: 106). Moreover the wrecking of many constructions show that rules, standards and regulations related with earthquake resistant construction manufacturing and minimizing damages are not utilized and residences are not considered as a requirement and accommodation right but turned into a commercial tool of the economy.

Kesici (2002: 105) stated that last devastating experience of Turkey (17 August Earthquake) affected a region on the vital point of the country and great population masses. This experience includes major lessons changing priorities of urban reproduction The earthquake has evidenced insufficiency and wrongness of urbanization, planning and investment policies and that a proper decision-making and settlement process is not experienced. Land use decisions, urbanization policies is the first and the most important step on this issue, city planning on the issues of urban land use, density restriction is the second step, and the process including construction and settlement composed of design and engineering choices and construction auditing is the third step. Execution of these processes wrongfully, insufficiently, incompatibly and in an uncontrolled way has all played effective role in conversion of the earthquake into a disaster. Human life, community safety, science and technology were disregarded, and profit ambition of the capital became the only single determinant fact.

Concentration of residential and industrial regions at high earthquake risk areas without considering social and economic conditions, construction works on agricultural areas, stream beds, overflow areas, river deltas, and low-sloped zones should never be allowed for

construction. Therefore, settlement and residential decisions should be in conformity with natural, social and economic conditions of a region.

3.2. Aims of the "Earthquake Resistant Planning"

The aim in physical planning and projecting of any region, city or village can be summed up as to create habitable living spaces and to evaluate social and economic objectives of development and land use decisions as a whole., The aim of physical planning in earthquake zones can be summed up in(Kiper,2001; Ergünay, 1977) as follows;

1. To determine natural dangers in local scale and to take land use decisions preventive for these dangers,
2. To prevent secondary natural events like fire, overflow, landslide etc. to occur following an earthquake from damaging construction,
3. To take measures to ensure events occurred to remain at local level,
4. To ensure emergency aid and salvation processes to be carried out rapidly and easily,
5. To take required measures to ensure re-settlement works to be held in the most rapid and economical way.

As cited in Kiper (2001), damages caused by earthquakes on constructed environments differ according to seven factors: (1) Proximity of the region to epicenter of the earthquake or living (active) earth fractures, (2) Ground structure, geological structure, soil conditions, underground water circumstance of the region, (3) Site selection and land use decisions, (4) Sensitivity towards environmental values, (5) Population living in the region and population density, (6) Density, design and construction quality of super and infra structures,
(7) Consciousness level of society
As it has been discussed above, all these factors are among the main issues especially in stages of formation, design and implementation of analysis and plan decisions of physical planning.

With an effective physical planning:

- Potential disaster risks may be reduced,
- Measures preventive for losses to occur as a result of disaster may be taken,
- Salvation efforts may be facilitated and enabled,
- Passing to daily living order may be started more easily after a disaster,
- Rehabilitation and reconstruction works may be accelerated

All the above mentioned issues have a meaning in the case of an effective and comprehensive disaster plans have been made. Those required to be held in physical planning in order to reduce urban earthquake risk can be considered in two forms as physical planning efforts required to be held pre-earthquake and post-earthquake. Physical planning issues like temporary shelters and tent areas, formation of emergency state spaces like hospitals, dining hall etc. temporarily are not included in scope of this study. However, above stated physical planning efforts required to be held after earthquake are the issues required to be stated in disaster plans to be prepared in pre-earthquake country-based, regional, province, district based levels.

3.3. Role of Planning Management for Decreasing Earthquake Risks in Turkey

Balamir (2006c) indicates that urban regeneration projects must not be perceived as the projects that are obstinately insisted by local managements. Moreover, he mentions that urban regeneration projects should be established with the participation of local societies. According to him, not only physical regeneration, but also, financial and social dimensions of the regeneration should be organized in this process. So, these kinds of projects should comprise social targets and special finance mechanisms that protect deficiencies and needs of the local society. The criterions as seismic activity, view of landscape, clear air, and profitability should be taken into account while maintaining the sustainability of the regeneration area in the urban regeneration projects. Hence, not only local management but also central management should create enough budget for regenerating the risky areas before a devastating disaster occur, instead of waiting in fatality.

According to LUDA Handbook E-4 Report (2002:18), collaboration with higher-tier decision-making bodies are represented as municipality and regional authorities, and national agencies that can be only beneficial for the regeneration process ideas at different tiers.

The responsibility of making plans, approval of the plans and implementation of the plans for an urban regeneration projects belongs to the local managements. On the other hand central management has technical and logical information and financial opportunities. For that reason, a successful collaboration of central and local managements is required for urban regeneration projects.

According to Hyogo Declaration disaster risk reduction is a national and a local priority with a strong institutional basis for implementation. Countries that develop policy, legislative and institutional frameworks for disaster risk reduction and that are able to develop and track progress through specific and measurable indicators have greater capacity to manage risks and to achieve widespread consensus for, engagement in and compliance with disaster risk reduction measures across all sectors of society. (UNISDR, 2005)

Both central and local managements developed capacities and methods for coping with disasters and emergency processes after 1999 earthquake in Turkey (EC, 2004: xi)

"Authorities are not capable of maintaining control in real terms, even if they are willing to carry out the tedious task of persistently ascertaining land-use decisions, and carrying out detailed observation of constructional activities" (Balamir, 2001: 28).

According to 1982 dated Constitution of Turkish Republic, administration forms wholeness and is based on centralization and decentralization principles. Centralization is divided into hierarchic sub-sections in provinces in form of central administration provincial organizations. Independent local administrations acts in accordance with the principle of decentralization; takes and implements decisions independently from central administration (O.D.T.Ü, 1998)

The institutional structure of development system in Turkey can be examined in two main parts as central administration organizations and local administration organizations (Ersoy, 2001). There is firstly Prime Ministry, State Planning Organization as a central administration organization which directs socio-economic investment decisions in sectoral level, country scale though not in physical planning level and is charged with determination of principles of regional development. The Ministry of Public Works and Settlement follows this as the ministry which is primarily liable from physical planning. The Bank of Provinces as the relevant institution of the ministry constitutes one of the most significant institutions of central administration with its duties both related with planning, maps, and infrastructure and with local administration banking. There are a number of institutions dependent on other ministries related with planning in central administration level (Ersoy, 2001).

Authorizations and liabilities of those taking a role in construction-settlement process like central administration, local administration, non-governmental organizations, users, investors, and constructors must be definitely rearranged with laws and regulations (Demirtaş, 2000). In addition to legal arrangements, the conductance of detailed geological/geotechnical surveys must be made obligatory in fulfillment of large infrastructure projects like selection, planning of settlement areas, industrial facilities, highways, tunnels, dams etc.

A provision regarding that any law may not be enacted to grant legal status for environmental implementations and illegal constructions contradictory with Environmental Effect Evaluation reports and regulations in nature of "development amnesty" and "environmental amnesty" can be included with an annex in the Constitution Balamir (2000). The significant opportunity of the today's conditions, public opinion, universities, many administration units, occupational groups, non-governmental organizations, and media should be used in a correct way to create an effective cogency on decision-making in this direction by reaching a common point on this issue (Balamir, 2000). In addition, budget possibilities of relevant units of central administration and local administrations should be increased, qualified staff should be employed, lack of tools, laboratory equipments should be removed, and serving for modern norms and standards should be ensured through on-the-

job training programs. Public control mechanism in which local administrations participate and trade associations have an active role should be strengthened in the construction sector.

Local Management

Local Management units consist of Province Private Administrations, The Metropolitan Municipalities (district municipalities, lower level municipalities and other municipalities) and villages in Turkey. Metropolitan Municipalities, municipalities and villages are the local authorities which are charged with the meaning of the Metropolitan Municipality Law numbered 5216 and dated 10.07.2004, Municipality Law numbered 5393 dated 03.07.2005 and Village Law numbered442 and adopted in 1924.

The Development Law numbered 3194 adopted in 1985 puts forward that the development plans which are in the borders of municipality and metropolitan areas will be made and approved by municipalities and the plans which belong out of the afore mentioned areas will be made and approved by governorship. But this authority is not unlimited. The regulation and application plans (if exist) have to correspond with the region and environment regulations prepared by central administrations.

Pricovic (2002: 12) determined the local administration as a part of the reconstruction makes up one of the major units of the system. The local administrations have an important role in the period of reconstruction as they are the authorities in determining the topics that orient the usage of urban land as the construction standards, determination of the development precedence. Natural takers of urban regeneration are the local management structures. They play a catalyst role that organizes the regeneration process.

3.4. Evaluation of the Chapter

Central governments have significant responsibilities in reconstruction stage since protecting citizens against different dangers is among main duties of public administration. On the other hand, national governments are responsible from orienting local and regional administrations in order to ensure them to display their performance in reconstruction stage.

Pre-earthquake preventive and protective policies should be developed instead of post-earthquake curing policies by both local and central managements.

On the other hand to educate the public and make them become conscious about disasters are among the responsibilities of the local units. Genç (2005.107) underlined that the political cooperation, companies, the information sharing on financial, technical, educational, areas among the countries affect the reconstruction process. As a result of this global sharing, the year 1990 is accepted as “International Natural Disaster Reduction” year and throughout this concept the natural disaster risks are tried to be reduced in the developing countries with the help of the projects like RADIUS.

CHAPTER 4

URBAN REGENERATION TO MINIMIZE THE EFFECTS OF NATURAL DISASTER

This chapter of the study introduces three sub-titles. Urban regeneration experiences from Turkey and world will be handed in the first two section of this chapter. Evaluation of the urban regeneration projects as to the implementation and project tools, which are utilized in the projects are the matter of the other section.

Disaster that can be categorized as natural disaster are: epidemic, plant disease, earthquake, volcanoes eruption, landslide, high tide waves, flood, erosion, typhoon, tropic storm, aridity, and forest burning (ADPC 2000) is identified in UNISDR (2002) as a serious disruption of the functioning of a community or a society causing widespread human, material, economic or environmental losses which exceed the ability of the affected community/society to cope using its own resources.

The sustainable use of natural sources, demand for high quality of life style, natural disasters and risk reduction might increase the need for regeneration (Bayraktar, 2006: 235). Balamir (2002) indicated that the Turkish urbanization and development processes have showed a significant performance in comparison with the world experience. The lack of unplanned urbanization strategy has created today's urban fabric of Turkey most of residential areas in which have an unsafe and illegal building stock.

As it has indicated in the report of 'Earthquake council of the Ministry of Public Works and Resettlement' published in September 2004, these unauthorized and unsafe building stock has grown at an accelerating pace and, there are no identified tools in order to provide the appropriate guidance for this growth in our cities. For this reason, the illegal buildings could

not be prevented, the constructions could not be controlled, the cultural heritage could not been preserved, and city planning has turned to be a process of legalization procedure instead of a scientific institution with powerful sanctions.

4.1. World's Urban Regeneration Experiences

The history of the world's urban regeneration process (See Appendix B) shapes the categorization of the world's urban regeneration experiences. As it is mentioned in Akkar (2006: 34-35), there have been common features of successful urban regeneration projects in the east from the beginning of 1990's. These projects are developed by

- strategical planning methods,
- collaborative planning issues,
- negotiator approaches,
- multi actoral and multi sectoral coalitions,
- local coordinated,
- collective efforts and,
- foundation of institutional organizational model which is directly related with urban regeneration policy and strategy.

Five categorizations about urban regeneration schemes can be identified according to the reasons of transformations with urban regeneration experiences throughout the world by underlining the experiences. Gürler (2002:51-52) identified four of them in her master thesis. These can be summarized as follows:

(1) The service-led urban regeneration scheme,
(2) The property-led urban regeneration scheme,
(3) The commerce-led urban regeneration scheme,
(4) The revitalization-led urban regeneration scheme,
(5) Risk reducing-led urban regeneration scheme

4.1.1. The service-led urban regeneration scheme

The service-based urban redevelopment efforts formulated a spatial pattern in which offices of command and control functions, financial establishments and producer-service firm's cluster in and around the core of the metropolitan area. Gürler (2002: 66) emphasized that Detroit is an example of Service-led urban regeneration scheme which is a planned process of central-city redevelopment under public-private partnership in the U.S. There is a shift to self-service city to (auto) manufacturing city was the reason behind urban

3.1.2. The property-led urban regeneration scheme

Fainstein (1994) determined this kind of scheme that it is based on the idea of massive land-use changes either by relocating or by revitalizing existing land-uses. Gürler (2002:73-74) underlines the property-led urban regeneration scheme with the case of Times Square in New York which is an instructive example for the mixed process of redevelopment. Fainstein (1994) explains that urban regeneration in New York emerged as an unplanned process of community action then evolved into a planned process of government intervention. With this case inner-city area in New York is transformed from a marginal district to office dominated urban center.

4.1.3. The commerce-led urban regeneration scheme,

According to Gürler (2002:78), the commerce-led urban regeneration scheme which is based on the idea of economic restructuring either by long-term redevelopment or by private capital investment. Moreover, she initiated to determine the commerce-led urban regeneration scheme with the case of Battery Park City in New York which is an illustrative example for the planned process of central-city redevelopment under public-private partnership.

4.1.4. The revitalization-led urban regeneration scheme,

There are two subcategories for revitalization-led urban regeneration scheme according to Gürler (2002: 83). First subcategory focuses on preservation and conservation of the historic

quality of urban fabric with architectural elements in order to revitalize and revalorize them by heritage industry are first categorization. The rest is rebuilding the area.

On the other hand, it has been determined that the revitalization-led urban regeneration scheme might be divided into three different sub-types with respect to the basic idea for the urban regeneration process. These are:
-historic preservation-oriented scheme: Atlanta, San Francisco, Edingburgh and Utrecht
-tourism-oriented scheme: New Orleans, Denver, Grainger Town in Newcastle,
-urban conservation-oriented scheme: Puebla

Risk reducing-led urban regeneration scheme should be added in to this categorization.

4.1.5. Risk reducing-led urban regeneration scheme

The risk reducing-led urban regeneration scheme should focus on the idea of reconstructing the high risk areas with the participation of public and private organizations. The finance might be supplied by the participation of the right owners and public institutions and foundations in order to provide safe environments. The general principle should be the preparation of action plans and determination of the strategies within the concept of risk management in a risk-reducing led urban regeneration model. This action plan should be prepared in accordance with the visions of upper scale maps which will be reevaluated with respect to the local characteristics and potentials of the area.

Social and infrastructural investments should target the Development of the quality of urban environment in risk-reducing led urban regeneration model. Therefore, large-scale local government-led development project should be the major strategy to realize regenerations in deterioration of urban areas within the city.

The regeneration model of Sümer Sub-district which is located in the one of the most risky residential area of İstanbul is the first model of Turkey. The fundamental characteristics of the project are analyzed in Appendices (See Appendix C4).

4.1.6. Tools Implemented in the Regeneration Projects of Luda[15]

The current context for improving quality of life in LUDA focuses on;

•Sustainable Development

•Sustainable urban development (SUD)

• Urban Regeneration

This requires integrated approaches to policy 'harmonizing environmental, social, cultural and economic objectives'. (LUDA Handbook E-2 Report 2002:41).

Sustainable urban development (SUD) has been simplified and rationalized into four core principles: ecological integrity, equity, participation and futurity in a four-sided model, known as PICABUE is illustrated below (See Figure 20)

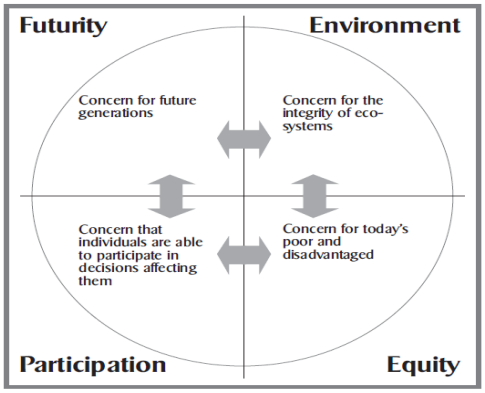

Figure 26: The PICABUE model of sustainable development principles

(Source: LUDA Handbook E-2 Report 2002:41)

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[15] LUDA represents Large Urban Distressed Areas. LUDAs are understood as parts of cities with complex problems regarding quality of life, e.g. economic, social, environmental conditions, urban structure and institutional capacity. They are usually not homogeneous but comprise both, sub-standard areas with multiple deprivations and more prosperous and rather intact areas at the same time which may be functionally interlinked with each other (LUDA Handbook E-2 Report 2002:5).

•Urban regeneration

•The new agenda for sustainable urban regeneration

The LUDA sustainable regeneration process provides an approach to urban regeneration planning that amalgamates four established participative planning procedures that seek to structure the re/development process and its assessment: (LUDA Handbook E-2 Report 2002:7)

• Collaborative Strategic Goal Oriented Programming (CoSGOP), emphasizing the importance of participation of all stakeholders in a flexible and responsive planning process

• Strategic Environmental Assessment (SEA), the recently introduced legal basis for assessment in the EU member states

• Sustainability Appraisal (SA)

• Prospective Process through Scenarios (PPtS) an approach to participative visioning adapted from techniques originating in the business sector.

An analysis of regeneration approaches across Europe shows that there are both success factors and bottlenecks in approaches to urban distress. (LUDA Handbook E-2 Report 2002:6). The following lessons can be emerged from the report of Luda (Handbook 2) review:

1. Processes of transformation, especially experienced in post-socialist countries, are strongly related to uncertainties. These make it more difficult to follow a regeneration process and improve quality of life in deprived urban areas and thus constitute a further challenge for defining improvement strategies.

2. A pre-condition for a successful regeneration of deprived urban areas is the integration of sectoral approaches. Sectoral approaches might help to alleviate most severe problems (e.g. of housing) in short term. However, solutions which are solely directed at changing physical structures irrespective of their social context are most probable to create further urban distress.

3. Even in case that national policies and programmes are directed towards integration this is not necessarily implemented in practice. Implementing integrated policies is a challenge and requires the initiation of on-going learning processes.

4. The integrative character of urban regeneration needs to be strengthened by building appropriate institutions for directing the process towards improving quality of life. These institutions should be directed towards political and institutional partnerships.s:39

5. Coordination, cooperation and strategic alliances are most relevant factors to success when improving quality of life in LUDA. Key issues are the extent of community empowerment and involvement as well as the development of mutual agreements between residents, users, developers and municipalities. This especially requires getting private investors on board as well.

6. Improving quality of life in LUDA is a long-term process (at least 10 to 15 years) and needs strategic thinking as well as persistence. A short term focus on improving physical structures is not sufficient as the solution of deep-seated economic, environmental and social problems is required. However the limited time scope of funding programmes often constraints the continuity of regeneration processes.

7. Programmes often have small budget and scope only targeting the most critical areas. There is a lack of programmes for early intervention that prevent an ongoing downward spiral before it comes into being. Within this context ongoing monitoring of urban development as well as early warning is necessary.

8. As many problems have to be tackled at a higher level than the area being considered, there is a growing importance of spatially integrated approaches. This requires making reference to the urban or even regional level as well as taking on board structural and external factors (LUDA Handbook E-2 Report 2002:40).

The basic aim of LUDA focuses on improving quality of life in large urban distressed areas the problems of which are multiple, complex and interrelated. Many of these areas are

poorly served by public transportation and lacking amenities such as day care centers, schools or leisure facilities. This city pattern is typical for France, Belgium, and Portugal, Germany and the Netherlands. Similar examples can be found in Turkey especially in İstanbul, Ankara, in which high levels of risks are occurred. In addition, LUDA's approaches to solve the problems of large urban distressed areas are classified as below:

• Creating a holistic vision towards the improvement of quality of life
• Building partnerships to regenerate LUDA
• Developing a common proactive vision of good quality of life.

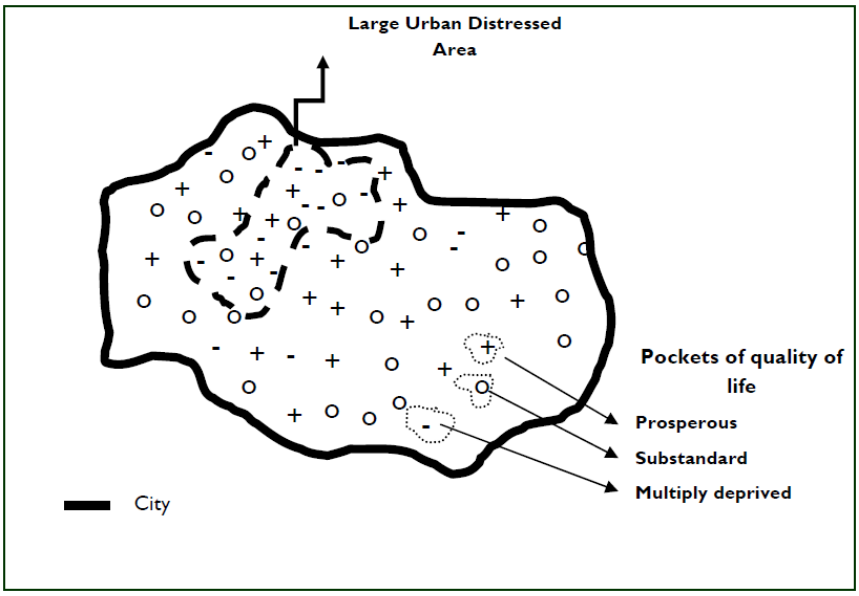

Figure 27 Large urban distressed areas within the city context (theoretical model)
(Source: LUDA Handbook E-2 Report 2002:7)

In a citywide context LUDAs are often functionally isolated due to physical, natural or socioeconomic barriers which disconnect them from the rest of a city (LUDA Handbook E-2 Report 2002:21).

Current approaches are taken into consideration in the report (LUDA). According to the report, these approaches to tackle urban distress can be divided into two main groups (LUDA Handbook E-2 Report 2002:28): sectoral urban programmes and integrative urban programmes

In many cases urban regeneration programmes are sectoral in their scope that focus on some aspects of urban rehabilitation such as physical improvement of housing, renovation of individual buildings or improving the urban environment. Resulting from their sectoral approach these programmes have a limited impact on areas of urban distress. In addition, in most cases programmes focus only in neighborhoods, neglecting the spatial interrelations of urban distress (LUDA Handbook E-2 Report 2002:28).

Many European states have recently launched new area based development initiatives to promote integration and participation. These places are designed to face socio-spatial divisions in cities and towns and the associated emergence of disadvantaged and blighted districts. Combating social exclusion requires an added emphasis on public participation, particularly to seek out the views of disadvantaged citizens. For that reason, the previous top-down approach to tackling urban distress has now been replaced by the concepts of partnership and integration (LUDA Handbook E-2 Report 2002:31).

The LUDA regeneration process set out below represents a generalization and simplification of the planning process in urban regeneration in the majority of EU countries, supported by the regeneration experience in the reference cities. The regeneration process comprises tasks that are grouped into the following steps. (See also Figure 22)

1. Identifying the LUDA area and recognizing the stress features present in the LUDA, referred to as DIAGNOSIS,
2. Participation in creating a stress-free vision for the LUDA – VISIONING,
3. Translating the vision into a coherent master plan – PROGRAMMING,
4. Putting the program into practice – IMPLEMENTATION
5. Evaluating the success of the program – MONITORING.

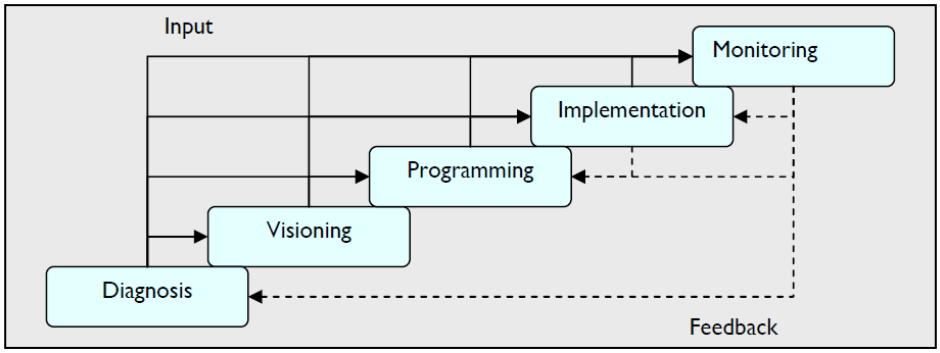

Figure 28 Regeneration Process—the steps

(Source: LUDA Handbook E-4 Report 2002:6)

The step-wise process of urban regeneration starts with diagnosis, when the distressed situation in LUDA is being recognized, in terms of environmental, social, environmental and ecological conditions as well as the spatial boundary for action. This picture of the situation provides the context and the 'springboard' for creating the vision of the desired stress-free future, which is developed in participatory manner in the visioning step. This vision is embedded in the framework of policies accompanied by a set of objectives and targets. During the programming step this vision is translated into the urban regeneration plan (master plan), setting the regeneration and related policies in space and time. This plan is then 'fleshed out' through individual projects and initiatives developed and then put into practice in through the implementation stage. (LUDA Handbook E-4 Report 2002:6)

Methods of Luda Regeneration Projects can be handled as following under the light of (LUDA Handbook E-4 Report 2002)

1-Determination of LUDA area: The boundaries of LUDA will have to be defined in a flexible manner according to the particular problems of the area. Furthermore its location within the city needs to be taken into account when setting LUDA boundaries (LUDA Handbook E-4 Report 2002:26).

As it has indicated in the LUDA Handbook E-2 Report (2002:26) in some cases boundaries do not have geographical lines to follow, but they still delineate the area by selecting certain

groups, problematic land uses or physical infrastructures which are important for the whole area's regeneration strategy. Some criteria that can help to define the boundaries of a LUDA are:

• Physical and functional barriers (e.g. river, airport, highway, railway);
• Administrative units;
• Electoral ward or neighbourhood;
• Functional considerations (internal connectivity);
• Running and planned regeneration projects;
• Political recognition/intervention (e.g. elected official).

It is cited in the report that the size of the pilot areas selected varies considerably, from 9.5 km² (Boy/Welheim (Bottrop) in North-Rhine-Westphalia) to 0.05 km² (centre of Spiesen in Saarland). The average number of inhabitants in the areas concerned is 9,000, with clear variations between the Western states (Länder) (8,400) and the Eastern (11,600).

2-Analyse of master plans and current socio-economical statuses are emphasized. It is necessary to stress that LUDA's regeneration goals that are presented in the LUDA Handbook E-2 Report (2002:27) link strategic planning and implementation, providing the foundation for action.

3- LUDA in relation to the whole city by determining the boundaries of the area.

4- The stakeholders' analysis began by identifying public services (health care, education and safety) and social institutions, municipal departments, sports centers, enterprises and private individuals who have a potentially significant role to play in developing the regeneration area.

5- Analysis of resources and limitations, Identification of the problems and the potentials are shown in schematic illustration

6- Lessons learnt/Experiences (step 1)

7- Since then, the collaboration with these institutions has been found to be fundamental to the development of scenarios and concrete proposals for the area.

8- Visioning / scenarios: "It is essential to design an integrated strategy which accommodates the entire process of urban regeneration. A long-term view will be needed and such a strategy will have to be coherent and incorporate the diverse facets of a

regeneration process (social-cultural, economic, environmental, urban and community and institutional capacity), while at the same time ensuring the maintenance of links with its neighbors"

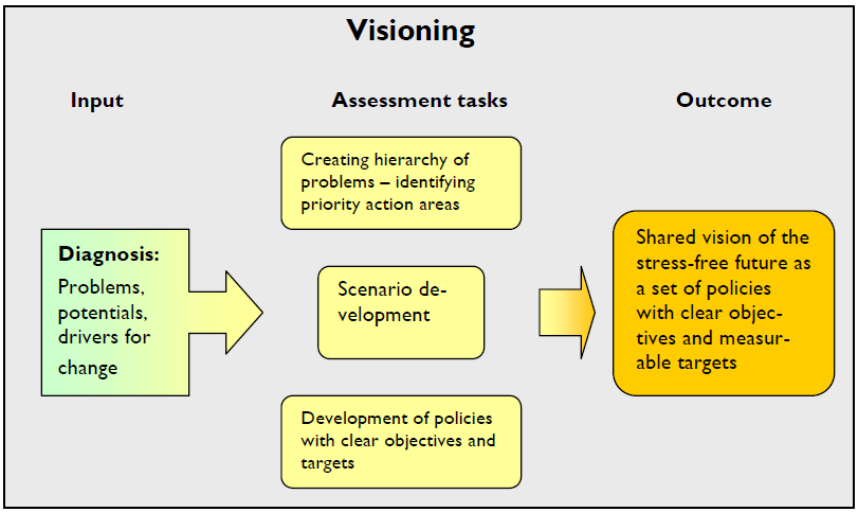

Figure 29Visioning Process of LUDA Projects

(Source: LUDA Handbook E-4 Report 2002:25)

9- Goals and objectives of the Development are determined

10- Alternatives for the development of the area are chosen

11- Formulated programmes, projects and plans will be evaluated in this process

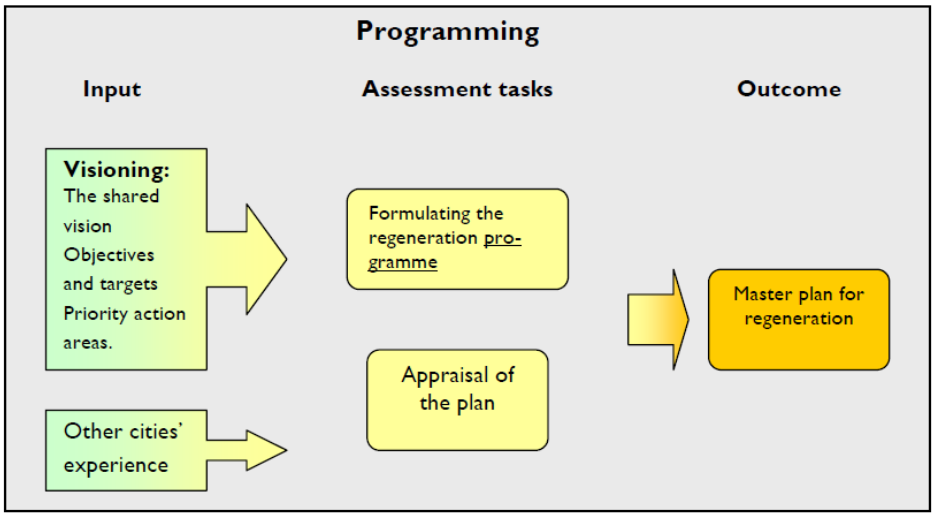

Figure 30 Programming Process of LUDA Projects

(Source: LUDA Handbook E-4 Report 2002:29)

15-Project Management

16- Implementation Process

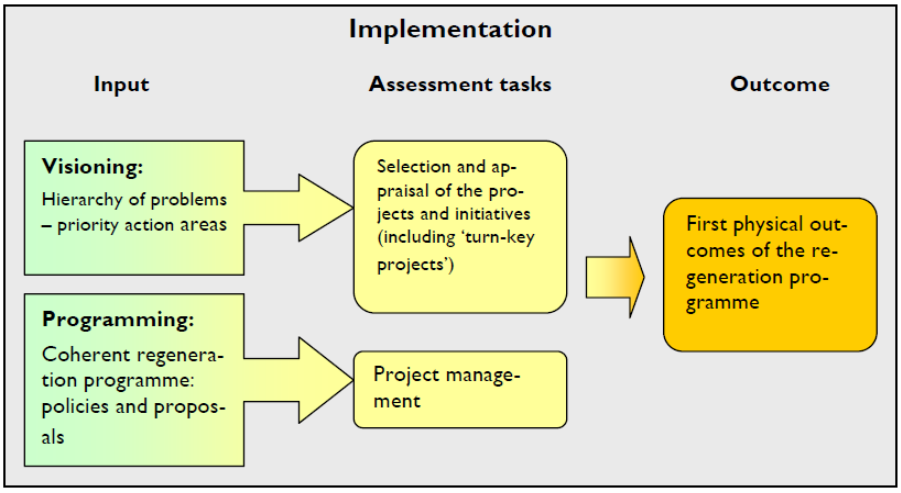

Figure 31 Implementation Process of LUDA Projects

(Source: LUDA Handbook E-4 Report 2002:33)

17-‘Turn-key’ projects

The priority action areas identified in the visioning exercise indicate what type of projects should be implemented first to kick-start the regeneration process and to provide clear message to the stakeholders that changes have begun (LUDA Handbook E-4 Report 2002:34) Moreover, it has been underlined in the report that, “turn-key” projects can also be low-budget and small-scale such and this type of projects attracts attention and shows that the process of changes has begun.

18- Determination of Priority action areas: A simple model to differentiate between and priorities actions can be used, where the stakeholders create a hierarchy of problems, classifying them into those that are to be addressed ‘now’, ‘soon’ or ‘later’.

19- Monitoring and evaluation

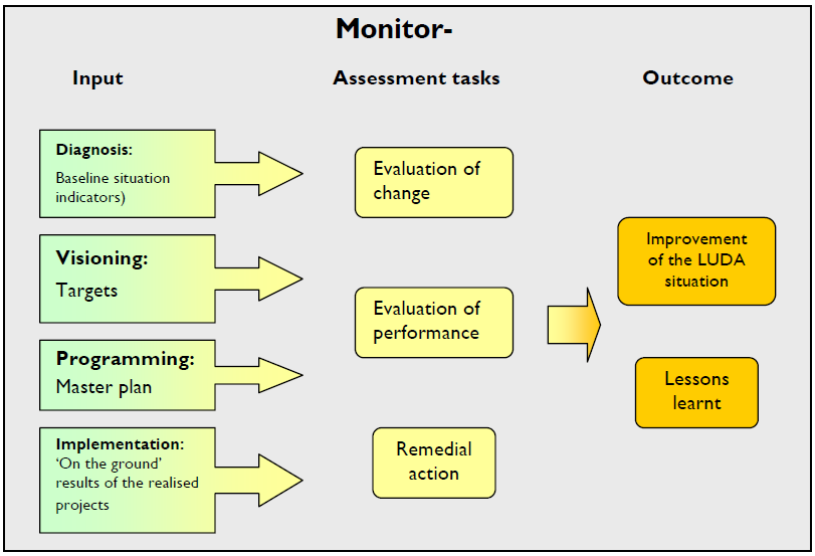

Figure 32 Monitoring Process

(Source: LUDA Handbook E-4 Report 2002:38)

20- Lessons learnt/Experiences (step 2) the difficulties experienced in having data, made possible the contact with some other projects inside the Luda area, allowing maximizing efforts and establishing partnerships. These experiences permit the appliance of some surveys and the access to data from institutions working in the area. It was very positive the

knowing of other monitoring systems, which permit us the use of alternative sources of information because; it is very difficult to establish an infra-municipal monitoring.

4.2. Turkey's Urban Regeneration Experiences

As it has seen in previous chapters' urban regeneration process, both in the world and in Turkey, has been changing with respect to the transformations in the politico-economic context.

As it has frequently mentioned in the academic circle (Şenyapılı: 1978; Tekeli: 1991; Kıray:1998; Yıldırım: 2006; İnce:2007), the idea of 'urban regeneration' do not have an old history, modernization and cultural diversity vary the perception of the "urban regeneration" used as a tool in order to change the locality.

According to Yıldırım (2006:7) urban areas have been changing in the process of their natural and lasting evolution, by means of socioeconomic, political, technological dynamics since they have first appeared. In the world, especially for two hundred years (after Industrial Revolution) the urban regeneration event has taken its place in the West's urbanization and planning literature with new and particular laws in recent years in Turkey.

In the fifty years' urbanization dynamics of Turkey have been based on the collective designing of the planning and attending process in which besides the public and private institutions, cities and nongovernmental organizations participated in, came into prominence. (Yıldırım 2006:7). The progressive shifts about urban regeneration process from 19th century to 20th century based on identifiable steps:

- With industrialization in 19th century, the need of rehabilitation of social and economic breakdowns was increased
- and in 20th century the attempt of reevaluation of the nonfunctional industry areas have been appeared.
- A strategic planning issue has been identified beginning from 1980's, in the process of integration global system approaches such as "pioneer projects" planned by public-private sector association.

The meaning of the urban regeneration is based on housing in 1950's. Shanty areas were translated into the apartments in 1950's. Politico-economic developments of Turkey in 1980s' accelerated the process of shift from "gecekondu" areas into apartments. (Türkiye'de Gecekondunun 50. Yılı: 1996: 17).

"Gecekondu" areas began to have a different meaning in 1960's. There was a protective and encouragement state policy which ignores the "gecekondu" for the purpose of vote. Therefore people who live in shanty areas began to make new "gecekondu" at the municipality and other public lands.

Regeneration of the CBD refers to the organized predatory practices of the unauthorized shanty areas threaten the cities in the 1970's. The social based urban projects were which were not implemented continuously, started in order to prevent the rural migration to the cities.

Şahin (2003) pointed that urban regeneration implementations have a distinctive breaking point after 1980's. All the planning responsibilities were given to Municipalities with Municipality Law numbered 3030, comprehensive planning activities especially urban regeneration implementation has begun in big cities. The urban regeneration projects which are utilized as tool in order to renew the historical places of the cities or old factory and industrial areas or unused ports have became popular in big cities with the competition projects which were only" urban design projects" at the end of the 1990's. (See Figure 27)

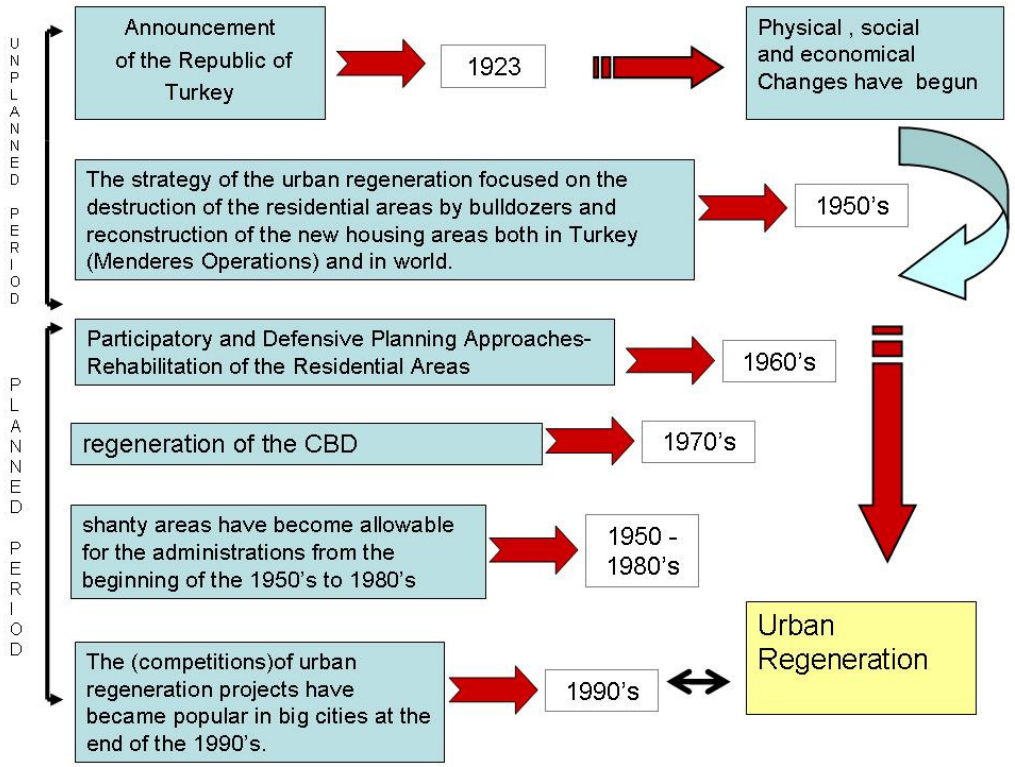

Figure 33 Urban Regeneration Process in Turkey

(Source: This schematization is synthesis of reading: Dündar, 1997; Yüksel, 2007; İnce, 2006)

As it has indicated (Dündar, 1997, Dündar, 2001) in the literature the urban regeneration developments have been implemented by three processes in Turkey. One of these methods is implementation of the built-operate and transfer model which is utilized commonly with the flat ownership law. Another one is implementation of the improvement plans. The other one is the urban regeneration projects which have been more popular recently.

4.2.1. Urban Regeneration Developments by Flat Ownership Laws

Ekinci (2005:36) stated that urban destruction has been begun by the flat ownership law dated 1965. By this law, the old buildings were translated into apartments in accordance with the conditions below in return with flat received from contractor for landownership. The legal support come from laws, and finance came from outside who are were the build-and-sell type of builders and constructers.

The new regulation about the flat ownership law numbered 511 was put into effect on 14th November 2007. There are new and important legal arrangements for earthquake disaster. The amendments of the buildings are restricted with this law. According to the law, no one has the responsibility in order to modify the distinctive colons of the building which are included to the carrier of the construction without any perception of the other neighbors who live under the same building. Thus, it has been intended to provide safe buildings against earthquake. One of the new arrangements of this law is about the adjustments for the earthquake expenditure. All the expenditures for earthquake resistant buildings will be added to the general expenditures of the real estates (Muhasebenet , 2008).

3.2.2. Urban Regeneration Developments by Improvement Plans

The first solution way to distinguish shanty areas to the urban market by renewing the area is 'improvement plans' in Turkey (Dündar, 2003: 66). The contents of the urban regeneration concept were reshaped by improvement plans after 1948 (Dündar, 2001). Urban regeneration was implemented in large scales in accordance with the improvement plans aiming reconstructing shanty areas urgently. These plans were the plans which were invented to translate the current illegal buildings into legal apartments. The physical appearances of old shanty areas become clearer by doing parcellation plans in accordance with the improvement plans.

Balamir (2005: 28) mentioned that urban extension and building production in Turkey are concurrently created by the production relationships of the apartment housing model,

fractional ownership and flat ownership development in the market. In his study, reinforced concrete apartment buildings have the formal control only. Almost all of these buildings had been constructed by small construction business services and could not be controlled by any public or private authorities. The areas in which these buildings take place have developed sub-standard environments, unauthorized developments in terms of urban services and investments. As a result, these circumstances have created big risk pools in urban areas.

It has been indicated in the report of the Earthquake Management Study Group in the 4th Economics Conference of Turkey organized by State Planning Organization (EC,2004: 14), 'fifteen' development amnesty law had been put into effect since 1948 in Turkey. If last arrangement of Turkish Criminal Code is considered, there will be sixteen development amnesty laws in Turkey. While unauthorized buildings were legalized, uncontrolled settlements were encouraged by these laws. Continuing of constructing illegal building stocks and then, giving the right of translating them into modern multistory apartments is an obvious way of demonstration of the encouragement, instead of taking economical and social measures in order to clear away these risk pools. There are high risk pools created by illegal residential areas and improvement plans. The quality of urban building stock comes first of these created urban risks. Building retrofitting is offered as a solution method. However, community should be redeveloped about the urban design and urban management in order to cope with the legal, economic and social problems. For that reason, Turkey will have to focus on the regeneration of cities rather then strengthening the each building, which is a waste of time. The idea of "legal instruments and new urban policies should be produced in order to facilitate the physical and social regeneration" presents the most challenging issue of urban planning. The news[16] about buildings to be pulled down without earthquake also supports that issue. These detected building stock may be determined as 'death machines'[17] because they can be easily collapsed without any earthquake has occurred. 5 storey apartment building (its name was 'Huzur Apartmanı') which was

[16] This news is online at: http://www.milliyet.com.tr/2007/02/23/guncel/axgun01.html ,
last accesed date: 20.09.2008

[17] The report of the Earthquake Management Study Group in the 4th Economics Conference of Turkey (2004).

collapsed by unnatural disaster on 02.27.2008 presented the deficiency of our planning system for the cities on the basis of the earthquake fact. Because of the insufficient and indirect urbanization policies, our cities are full of with the unhealthy and illegal building stock which represents high risk pools. As it has been seemed in Konya[18] again, there are various problems as insufficient constructions, physical obsolescence and unauthorized additions to the buildings that generate new hazards. As it has seen in Bingöl[19], deficiency of public buildings is another problem caused by the insufficient Construction techniques. Spontaneously collapsed buildings in Konya, Bingöl, etc. have corrected the fact that required precautions have not been taken in that elapsed time.

Table 4 The Distribution of the Total Certificate of Approvals Given by Development Amnesty According to the Provinces
(Source: It is compiled from TSI Building Construction Statistics for CP Studio Project in 2006.)

Years	Percent of the buildings (%)	Percent of the most building license given provinces	The Provinces Which are Given Certificate of Approval by Development Amnesty
		(%)	Provinces Located in the 1st And 2nd Earthquake Zones
			The Provinces which are Given Certificate of Approval Over 500 by Development Amnesty
1984	95	82	Konya, Uşak, Kahramanmaraş, Bursa, Elazığ, Adana, Tokat, Zonguldak, Ankara, Manisa, Antalya, Trabzon, Denizli, Balıkesir, Eskişehir, Aydın, İzmir, İçel, Hatay, Bolu , Kocaeli , Tekirdağ, İstanbul
1985	93	87,3	Diyarbakır, Manisa, Uşak, Muğla, Antalya, Balıkesir, Zonguldak, Çorum, Gaziantep, Trabzon, Kahramanmaraş, Hatay, Bolu, Aydın, İçel, Tekirdağ, İzmir, Denizli, Ankara, Kocaeli, Samsun, İstanbul

[18] This news is online at: http://www.tumgazeteler.com/?a=751448 last accesed date: 04.10.2008

[19] This news is online at: http://www.haberler.com/bingol-de-okulun-cokmesi-haberi/ last accesed date: 05.10.2008

Table 4 continued

1986	93	91	Ordu, Manisa, Elazığ, Tekirdağ, Balıkesir, Aydın, İçel, Kahramanmaraş Amasya, Bolu, Isparta, Antalya, Gaziantep, Zonguldak, Hatay, Trabzon, Bursa, Ankara, İzmir, Uşak, Denizli, Kocaeli, Samsun, İstanbul
1987	93	91,6	Konya, Aydın, Elazığ, Kahramanmaraş, Niğde, Rize, Bolu, Giresun, Muğla, Tekirdağ, Gaziantep, Zonguldak, Amasya, Balıkesir, Isparta, Ordu, Manisa, İçel, Antalya, Uşak, Hatay, Trabzon, İzmir, Samsun, Kocaeli, Denizli, Ankara, Bursa, İstanbul
1988	93	68,5	Samsun, Trabzon, İzmir, Nevşehir, Ankara, İçel, Kocaeli, İstanbul, Bursa
1989	84	72	Kocaeli, Ankara, Bursa, İstanbul
1990	89	44,1	İçel, Bursa, Adana, Kocaeli, İzmir, İstanbul
1991	91	62,7	İçel, Adana, Kütahya, İzmir
1192	95	50,9	İçel, Kütahya
1993	96,8	64,6	Ankara, Kütahya
1994	90,7	62,2	İzmir, Ankara
1995	92	0	Ankara
1996	95,3	45,8	Ankara
1997	91	0	Ankara
1998	91,7	0	Ankara
1999	91,4	0	Ankara
2000	98	0	Ordu, Ankara

It has seen in the table that the buildings which are located in the provinces that are given certificate of approval by development amnesty laws (that fall on five- year legislature of periodic session) overlap with the cities (by misadventure)where the devastating earthquakes had occurred recently. (See Table 1) According to the Table 1, there is a decreasing policy trend for the certificate of approvals after 1990s; Ağrı and Diyarbakır are the cities that the development license is given at the minimum level. Despite of this, İzmir, Bolu and İstanbul are the cities that the certificate of approval is given at the maximum level by development amnesty laws.

As Dündar (2003) underlined the fact that, six or seven story apartment blocks are constructed instead of one or two story semi-rural houses at the regeneration area. The

population density increases rapidly. In addition, educational, health and recreational facilities, open-green spaces as social services are ignored within the content of the improvement plans. These factors have been increased the risk factors at the urban areas. In addition, all shanty areas could not be renewed with the improvement plans because of the fact that risky areas, topographical and geological prohibited areas are not rantable for regeneration. So, the improvement plans are not solution way for urban regeneration. In contrast, they generated new problems which have to be solved urgently. Hence, new tools should be improved in order to solve the new problems. In this sense, urban regeneration projects have been the adopted tools.

4.2.3. Urban Regeneration Developments by Projects

The urban regeneration projects have been the distinctive solution way at shanty areas after 1980s. Because the organizational and financial models of urban regeneration experiences from world are not evaluated at local and national levels, urban regeneration projects have been integrated to our planning system (Dündar, 2003: 68). According to her, implementation-oriented urban regeneration project model is created with distinctive laws and regulations. The social, economical and physical results of the spatial regeneration model are usually ignored. Because of the fact that the attractiveness is the rantable issue for an urban regeneration project which determines the reorganization methods for a global city. So, the regeneration project does not solve the problems of the public who live in the regeneration area.

There have been physical, social and economical developments by implementing the urban regeneration projects. The attractiveness of the area is increased within the context of the project. There may be recreational areas, convention centers and hotels throughout the regeneration area. These developments will pull the high income groups to the area. Rent will be also increased. The public who are affected by the social and economical changes will also search new alternative living areas. The vicious circle between shanty area and urban regeneration area begins. Because a lot of uncontrolled and illegal housing units will be constructed ‘in a night’ at the new alternative areas (where are maybe on the disadvantageous for residential settlements), this area will soon became high risk pools.

with the new created shanty areas. Administrations will make a decision for urban regeneration for this early created shanty area. (See Figure 23) This is not a sustainable solution. Unless we have a comprehensive plan at different levels (province, district, subdistrict, region, and etc...), unless we make a plan for low income groups, unless we make mitigation plans, this vicious circle turns forever.

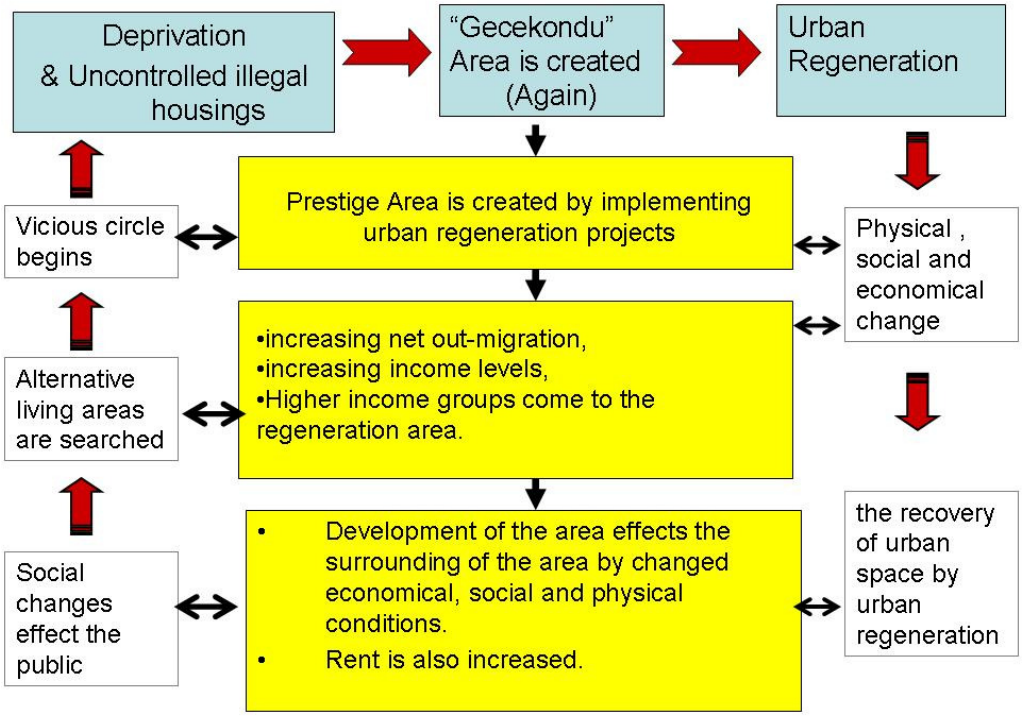

Figure 34 Urban Regeneration Circle for Shanty Areas

(Source: This schematization is synthesis of reading: Yüksel, 2007)

4.2.4. Financial and Organizational Models of Urban Regeneration Projects in Turkey

According to Balamir (2006a), rearrangements with respect to the urban regeneration should be determined not only the processes which provide the re-share of immovable

properties and physical regenerations, but also the local development projects which include social and financial processes for the deficiency and need of the public.

There is no central financial support in order to implement urban regeneration projects in Turkey. However, the international funds as Europian Union, Mediterranean Environmental Technical Assistance Programme (METAP), European Investment Bank, and Euro med, UNESCO ve European Council funds are used for urban regeneration projects. Keleş (2003) suggested finding a universal fund with respect to the urban regeneration which is generated by the financial supports of central and local administrations, international institutions and private organizations as a permanent tool. Yıldırım (2006) stated that there are special efforts which generate its own finance for the purpose of economical sustainability. On the other hand, ready fund which is gathered obligatory should be used in order to reduce risk for action plans, and disaster and hazard maps.

Modern methods and projects are utilized for the implementation of the urban regeneration projects. Integration of Development Rights and Transfer of Development Rights should be used for the purpose of guiding urban regeneration investments because of the deficiency of the planning tools.

Integration of Development Rights

Göksu (2003) mentioned that this method depends on gathering development rights as in parcel terms with urban regeneration projects and the re-arrangement of the created assets with public private partnerships. The advantages of the model are classified by him;

- Development right will be given in project Terms.
- Profit –sharing of the created assets with the Project.
- Public welfare
- Participation of different groups (public, private, NGO...)

Transfer of Development rights

Göksu (2003) explained that the (potential) development rights are transferred to other project. Balamir (1994) determined the transfer of development as a use development right of one immovable property into other one. This model is based on the security transactions

of the development rights, instead of the buying or selling the plot of lands. In addition, Göksu (2003) suggested that this model should be used in order to

- make the critical areas where have the high risk of earthquake empty
- transfer the current development rights to another projects
- the renewal of the depreciated areas and shanty areas.

The advantages of the model are classified by Göksu (2003);

- conservation of the natural and historical assets
- equitable distribution of development rights
- effective usage of the Development rights in the market
- most beneficial and optimum usage of the urban land.

High building density, deficiency of the open-green areas, earthquake risky areas, and unsafe conditions of the current building stock pointed out that that it is obvious to renew the urban built-up areas (Göksu 2003).

4.2.5. Legal Process of Urban Regeneration after 1980's in Turkey

Urban regeneration is frequently discussed in the last term legal arrangements for the rehabilitation of the 'gecekondu' areas and improvement of the social, economical and environmental facilities of these areas. It is needed to make a new legal framework in our country which considers public welfare and determines all the principles of urban regeneration "fact" in order to define and eliminate the deficiencies of urban regeneration implementations and make the urban regeneration project successful (Mutlu, 2007:73). There new approaches for legal arrangements about urban regeneration implementations and policies in Turkey. The laws that are related with urban regeneration can be determined as following:

- Urban Regeneration Project Law of North Ankara Entrance numbered 5104 and dated March 2004
- Greater Municipality Law numbered 5216 and dated July 2004

- Preservation by Renovation and Utilization by Revitalizing of Deteriorated Immovable Historical and Cultural Properties Law numbered 5366 dated June 2005
- Municipality Law numbered 5393 dated July2005
- A Draft of a Law about Regeneration Areas. This legal arrangement has not become a law yet; however, it has been still discussed nowadays. (See Appendices, part A) This draft is a strategic attempt for the purpose of explaining the urban regeneration issue in our country. This draft and the critics of this draft will be discussed at the following sections of this study.)

Urban Regeneration Project Law of North Ankara Entrance (Law No: 5104)

Urban Regeneration Project Law of North Ankara Entrance is the unique law which is directly related with urban regeneration issue. This law was put into effect on 4 March 2004. [20] The regeneration are that is on the protocol road and its surrounding is in the responsibility of three municipalities because of its location.

This "gecekondu" area can not be renewed by improvement plans because of the responsibility chaos (Mutlu, 2007:74).Therefore all the responsibilities which are related with the implementation process of the urban regeneration project of North Ankara Entrance are given to the Greater Municipality of Ankara by the distinctive law numbered 5104.Consequently the integrity of the urban regeneration project will be developed in the progressive manner.

Greater Municipality Law (Law No: 5216)

The responsibility of making and accepting development plans was given to the Greater Municipality by this law which was put into effect on July 2004. Consequently, The Greater Municipality got the responsibility of implementing all the urban regeneration projects and other development projects easily. (Mutlu, 2007:74)

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[20]Some of the articles of the law has been changed at 5 April 2006(A law relating to make a change about Urban Regeneration Project Law of North Ankara Entrance numbered 5481)

Preservation by Renovation and Utilization by Revitalizing of Deteriorated Immovable Historical and Cultural Properties (Law No: 5366)

When "Draft of Urban Regeneration and Development Law" submitted to TGNA Directorate on March 1 of 2005, this draft of law became the target of intensive critique. For that reason scope of the law was only limited with historical construction stock, and "Preservation by Renovation and Utilization by Revitalizing of Deteriorated Immovable Historical and Cultural Properties" was enacted by being accepted on June 16 of 2005 and come into force by being published in Official Gazette on July 5 of 2005 (Mutlu, 2007:75).

Mutlu (2007:75) evaluated the content of law numbered 5366 as following:

- Aim and scope of the act is to reconstruct and restore site areas and protected areas, to create housing, trade, culture, tourism and social equipage areas there; to take measures against natural disaster risks and to protect cultural assets by renewing and use them by keeping alive.
- Determination of regeneration areas is held with absolute majority of municipality assembly and upon Decree of the Council of Ministers, implementation can be projected as stages within a program.
- After the decision of Council of Protection of Culture and Nature Assets. Expropriation and implementation process begin.
- Restoration projects and implementations are also held in care of provincial special administrations and municipalities, or jointly with Housing Development Administration of Turkey (TOKİ) or implemented, control, auditing and follow-up procedures are held.
- Applications relating to constructions to be restored by exactly protecting may be held by parcel owners provided that integrity of project is not disturbed.
- Required adjustments should be made against natural disaster risk.
- Protection Zone Committee is created for approval of restoration projects and projects approved by a board are implemented by municipality.
- Restoration projects are exempt from provisions of Public Procurement Law numbered 4734.

- Provisional restrictions may be imposed on immovable savings. The expropriation can be made or limited real right can be established unless there is an agreement.
- Immovable properties owned by the treasury are transferred to municipalities without charge, 25% of revenue generating activities is given to the treasury. The immovable properties cannot be sold by the treasury.
- Restoration projects are exempt from all kinds of tax, duty and charge.
- Historical constructions can be established to persons and institutions as restricted real right provided that they are protected.

The most important problem of this Law is the deficiency of the determination of any criterion related with restoration areas. Another one is that; there are no articles about plan decisions related with applications to be held in these areas. According to Mutlu (2007:77), there are some provisions which might cause to perceive restoration as destructing and reconstructing and make some implementations in this direction possible

In addition, there are some critiques related with the Law numbered 5366 according to Yıldırım (2006: 19-23) and were stated below and the critiques stated by NGO's[21] are as followings;

- It does not completely coincide with the existing protection regulations,
- The issue how should be acted about constructions worn and lost their characteristic in the city and according to which criteria is not clarified,
- Concepts in the protection regulations and new concepts brought with amendments cannot be correlated,
- It disregards participating process,
- It provides point, partial, narrow-scoped and insufficient solutions instead of scientific discourses,
- Integrity of decisions on urban site areas and protection purpose development plans is disturbed,

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[21] With respect to the critics of the Law numbered 5366 are online at: http://www.spo.org.tr/genel/bizden_detay.php?kod=113&tipi=2&sube=0, last accesed date is 15.10.2008.

- Even though scope of the act is limited with historical pattern of city, these limits may be pushed and abused by announcing many areas in the city as restoration areas,
- In addition to this, laws enacted relating to local administrations may also be exploited

Municipality Law (Law No: 5393)

As cited in Mutlu (2007) the term of urban regeneration is not defined in article 73, however many responsibilities are given to municipalities in the regeneration issue by this article. According to the article, municipalities have the responsibility of

- implementation of urban regeneration projects with the aim of reconstruction and restoration,
- planning housing areas, industrial and commercial areas, technology parks and other social facilities,
- taking measures against earthquake risk or protecting historical and cultural pattern of city.

According to the Law numbered 5393, identification of the areas to be concerned in the regeneration projects is determined with the decision of absolute majority of number of assembly members. ¼ of relevant duty and charge is received in individual buildings to be destructed and reconstructed in urban transformation and development projects in accordance with this Law. The regeneration area must be located in borders of municipality or adjacent area and must be at least 50 thousand square meters.

A Draft Law About Regeneration Areas

"Draft of Urban Regeneration Law" submitted to TGNA was criticized at first by Yıldırım(2006, 17-18) and other specialists[22] and profession associations like Union of

[22] This news is online at: http://www.arkitera.com/h590-kentsel-doneklik-yasasi.html last accesed date: 15.10.2008

Chambers of Turkish Architects and Engineers, Chamber of Architects and Chamber of City Planners[23] in terms of aspects like

- it does not deal with the issue in sufficiently comprehensive and integrated parts,
- it is in contradiction with Law on the Protection of Cultural and Natural Heritage,
- it does not ensure participation of specialists and other actors in the process,
- it justified illegal settlement and imposed some arrangements which may lead to depreciation in historical pattern.

This draft of law which has been forwarded to Turkish Grand National Assembly on 22 June 2006 has not become a law yet. This draft of Law is intended to be enacted through based on the foundation of removing disaster/earthquake risks and regeneration of shanty areas actually. It is argued that most of draft provisions are conflicting with the Constitution of the Republic of Turkey. Explanations relating to aim article of the Draft (See Appendices A for detailed explanations) and its content are given as follows: (Mutlu, 2007: 79)

The aim of this Law is explained in the first article of the draft as following:
"The aim of this Law is to determine all kinds of works and procedures, and principles and bases considering determination of transformation areas and fulfillment of transformation in order to create living environments sensitive against disasters and urban risks or to ensure improvement, refinement, renewal and development of areas having physical wornness and insufficient and ineffective social and technical infrastructure in accordance with science, technique, art and health rules in all urban and rural areas irrespective of that there is a development plan"

This draft law does not manifest the goals of urban regeneration planning and falls short of constituting a cotemporary regenerated urban areas(Ulutürk, 2006:149) Moreover she indicates that, the draft law of 'Urban Regeneration' neither has a content that covers disaster risk reduction issues comprehensively nor ensures a development responsibility and

[23] This news is online at: http://www.spo.org.tr/genel/bizden_listele.php?bizden_kod=4 last accesed date: 15.10.2008

regeneration of the cities into safe living spaces. Although one of the reasons of this draft law is to take preventive measures for disaster risks, it is not known that it is a sincere reason. It is at the present time not known that how municipalities will assess their disaster risks, take preventive measures for earthquake or other disaster risks through urban regeneration projects.

4.2.6. Inefficient Implementation Tools in Regeneration Projects

Last term legal arrangement about urban regeneration has focus on the conceptual aspects of "urban regeneration project zones". However these project zones do not include scientific and methodological approach. These project zones have to underline the process of expounding urban risks and hazards which are occurred by the natural disasters according to spatial analyses. There is an analytical comprehension deficiency at this field in our country which has increasing vulnerable people and housing stocks. While regeneration projects have revitalized many cities, it often has at a high costs to existing communities, and in many cases simply resulted in the destruction of vibrant neighborhoods. Urban regeneration draft has been called a failure by many urban planners and civic leaders, and has since been reformulated with a focus on redevelopment of existing communities. The draft of the law ignores the higher level plan decisions like Mitigation Plan or Spatial Plan.

- With this draft local management has the boundless responsibility of determination of the regeneration area.
- There is no definition related with the determination of regeneration area criteria, only a bottom value fixed for size of regeneration area which is not smaller than five hectares is determined in the draft, but this is not very fair and logical.
- No criteria have been explained in the draft in order to identify the choice of regeneration area.
- This draft should only be related to urban regeneration of high risk areas for disaster risk reduction.

- 'Earthquake Hazard', 'Risk', 'Earthquake Risk-led Area', 'Urban Micro-zones', 'Special Project Areas', 'Action Programs and Projects', 'Contingency Planning', 'Earthquake Insurance' are required to be defined in the draft.
- Promote and improve dialogue and cooperation among scientific communities and practitioners working on disaster risk reduction,
- Encourage partnerships among stakeholders, including those working on the socioeconomic dimensions of disaster risk reduction.
- Develop a matrix of roles and initiatives

On the other hand, 13[24] laws are wanted to be inactivated with this draft of law which is predicted to be a general law with respect to the urban regeneration. The responsibility of decision making and implementation under the authority of central administration is transferred to local administrations with concerned 13 acts according to the draft. However, this hard process constitutes contradiction with the Constitution of Turkish Republic because of the fact that this draft causes a hierarchical conflict constituting a position above most of other 13 laws.

This draft of Law underlined only the size of the regeneration area actually, although it seems that the framework of regeneration areas will be implemented. Moreover, worn city segments were also mentioned but it was not stated how and according to which criteria these areas will be determined

On the other hand, Balamir (2006d: 48) tries to determine the inefficiency of sanctions which is related with current laws provided in the public administration field. In his study, Balamir conceptualized these principles in order to rearrange the regulations:

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[24] Natural Property and Cultural Heritage Law numbered 2863, Natural Parks Law numbered 2873, Environmental Law numbered 2872, Bylaw of The Environmental Protection Agency for Special Areas Equivalent to Law numbered 383, Coastal Law numbered 3621, Boğaziçi Law numbered 2960, Mining Law numbered 3213, Forest Law numbered 6831, Village Law numbered 3202, Land Protection and Land use Law numbered 5403, Grassland Law numbered 4342, Turkish Civil Aviation Law numbered 2920, Precautions For Hazards Effecting General Life Law numbered 7269.

1. Earthquake-based Approach

The basic reason that provides "urban regeneration" priority in Turkey is the possibility of urgent intervention to the high risk areas. Any new rearrangement should be limited for the purpose of avoiding earthquake risks as well as similar reducement rearrangements were legislated in the past for only fire in İstanbul. Other rearrangements about regeneration should be handled within the context of "Urbanization and Development Law" (Balamir 2006d: 48)

2. Upper Scale Plan Relation

Any urban regeneration project, no matter what the aim of it is, should be determined in an upper scale plan. Moreover, Balamir (2006d: 48) indicates that location, boundaries, size, attribute of this urban regeneration Project should be determined in a plan, which aims to reduce and Prevent the (urban) risks with spatial and social references to a Mitigation plan.

3. Prevention of Monopolist Intervention
4. Social and Financial Content
5. Relations between Foundations and Current Laws
6. Control and Self-control Mechanisms

Urban regeneration projects in Turkey have a potential of generating new urban problems, instead of preventing new ones. Because, these rent-oriented projects are not integrated into the city plans which are prepared in accordance with the upper plans, and do not have any social and economical intervention. These kinds of projects focused only on the physical rearrangements, social and economical ways are ignored in any urban regeneration project.

(See Appendices C for detailed explanation for organizational structure of the chosen urban regeneration projects).

4.3. Evaluation of the Implementation Tools in Urban Regeneration Projects

Chosen urban regeneration projects are compared as to the implementation tools and new proposals for principles of the projects are developed in this section, also. The detailed expressions of the chosen urban regeneration projects are indicated in the appendix (See Appendix B). Two of these urban regeneration experiences are from Ankara. One of them is

the largest scale urban renewal project encompassing protocol road of Turkey with a distinctive legal arrangement. This project is known as "Protocol Road Project" (Urban Regeneration Project of North Ankara Entrance). Another one is. Dikmen Valley Urban Development Project which is the first regeneration projects of 'gecekondu' areas. Two of these urban regeneration experiences are from İstanbul. One of them is the first model for earthquake-based urban regeneration project of Turkey (Sümer District of Zeytinburnu). Last example for urban regeneration is Kartal-Küçükçekmece urban regeneration winning competition proposals which have the international visions.

These projects may be taken into account as the samples of the basic interventions of risk reducement. Even though the principle aim of Urban Regeneration Project of North Ankara Entrance focuses on the changing the perception of representatives of foreign states in a positive manner when they see the improvements in the residence projects of Turkey in their visits to our country, the illegal building stock with gecekondu areas, all of which were located the high slope areas are renewed. On the other hand, although Dikmen Valley project is a vision project, the firs principle of the project depends on preventing flood risk by creating a green valley with recreational facilities. Another project, Sümer subdistrict Regeneration projects is the first earthquake-regeneration model of Turkey. The rest is the sample of development project that attracts greater risks with greater investments; however, this project may minimize the risk by sharing the high densities between two sides of İstanbul and by redesigning of the area.

As it has seen in the previous sections, urban regeneration experiences in LUDA based on the observation issues with systematic feed-back approaches from starting to end of the process (Determination of the LUDA area and implementation- monitoring[25] steps have also included in this systematic approach). However, there have not been such implementations in Turkey. Many of the implementations are investment-led regenerations; therefore, risk reducing has often been the second matter in the regeneration projects. On that point,

[25] Monitoring is an important tool for the early detection of potential negative impacts of the regeneration project on the built up environment and humans. For that reason, it has a major role in the prevention of likely damage on society.

Balamir (2006d: 48) intents to determine some operation mechanisms in order to remove the inefficiency of the implementation tools of urban regeneration as followings:

- *Determination of the High Risk Areas* in accordance with the pre-elimination methods of surface, building stock, usage of the buildings. Owing to the fact that giving a size measurement is not realistic, the regeneration area might differ in size. Urban re
- *Urban Regeneration Stakeholders*
- *Participation*
- *Supply of Loan and Source* (by transfer of Development rights, by public sources, by personal resources of ownerships)
- *Project Cycle* (determination of area, planning process, design, implementation, monitor etc.)
- *Prevention of Social Segregation*
- *Union re-sharement of immovable property* (like 18th article implementations)
- *Transfer of Rights*
- *Legal Process*
- *Implementation and Authorization*
- *Regulations* (about re-arrangements of the details for determination of the area, participation models, evaluation methods, union-share methods, Development rights/ownerships transfers, operating Management of regeneration area, financial procedures)

Public-Private partnership might help the urban regeneration process to be implemented easily. For that reason, this implementation model should be utilized in our regeneration process from beginning to end. Every kind of intervention tools may take place in an urban regeneration Project. But, the most sustainable method should b chosen in the area as well as suitable functions are held within the content of the project. Urban regeneration projects are long-term projects that always effect not only the part of the area, but also whole city. For that reason, the likely effects of the projects should be taken into account at first, and while implementing the project, Monitoring system should be built up in order to make regular feed-back.

CHAPTER 5

TURKEY'S APPROACH IN PLANNING POLICIES AND LEGAL PROCESSES REGARDING DISASTER RISKS

This chapter of the study has four sub-titles. In the first title, planning policies and disaster risks of Turkey are discussed; the second title is focused on legal process of urban regeneration with a suggested legal model. Third section of this study will be about legal process of disaster risks and, lastly, evaluation of this chapter will be concluded in this chapter.

According to Balamir (2001:25) the choice of settlements in Turkey at macro level, for instance, have historically favored fertile valleys that take place in between major geological formations, which are rich in accumulate organic material, but loose in seismicity and weak in structural carrying capacity, or subject to liquefaction, and probably are the worst places to be at the incidence of an earthquake. Moreover he indicates that availability of water sources and warm springs where major geological faults prevail, are additional attractions to these high risk zones, most settlements are located at such locations, and intensive, investments are made, instead of avoiding these weak soils for constructional purposes, and keeping such land for agricultural production only. With the alignment of major roads and public infrastructure alongside these valleys and plains, such nodes become still more attractive economically, concentrating all human and productive resources further at such vulnerable lands, collectively generating higher risks (Balamir, 2001:25).

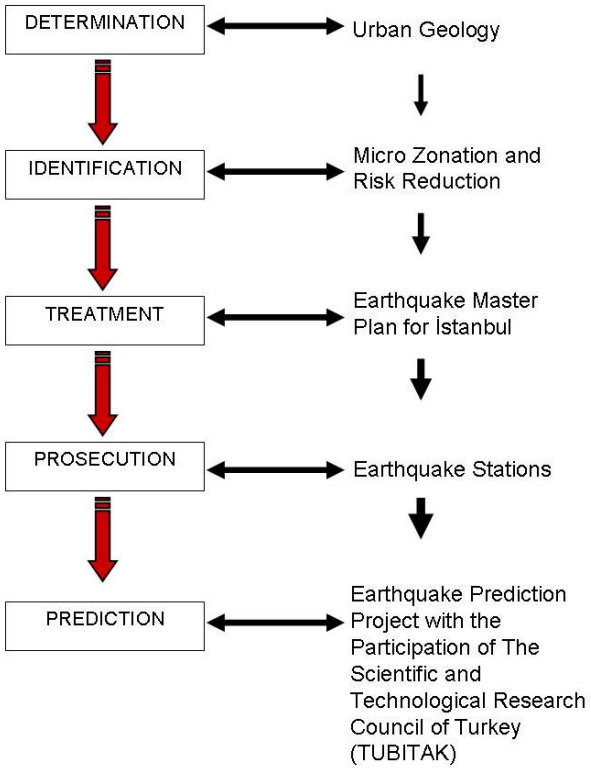

Figure 35 Identification of Disaster Risk Reduction Process of GMI
(Source: This schematization is synthesis of the reading from web page of GMI)

5.1 Planning Policies and Disaster Risks of Turkey

Plan stages are defined in 3194 numbered Development Law. These are divided in three sections as Region Plans, Landscaping Plans and Development Plans. Development Plans are divided in two sections as Main City and Applicable Development Plans.

Region Plan is prepared to determined socio-economic development tendencies, development potential of settlements, sectoral objectives and infrastructure distribution. It aims to determine activity and infrastructure distribution according to development potential of each settlement within the framework of socio-economic and sectoral objectives in

regions borders of which are determined to remove interregional imbalances. Region plan is made and caused to make by State Planning Organization (Ergen, 1999). Landscaping Plan performed at the second stage determines land use decisions in accordance with country and region planning decisions (Ergen, 1999). Then, city plan is performed at the last stage on includes applicable works of reflecting development decisions taken in country dimension in macro scale in physical space.

Development plans are systems arranging settlements in order to ensure people to live safely in environments under natural disaster threat. However, Development Law numbered 3194 in force ignores the pre and post settlement periods by restricting itself with a mission only focused on settlement. And it considers this issue by reducing to the matter how 'single building strengthening 'will be performed without stressing requirements in settlement scale (Balamir, 2000). Due to this restricted point of view, he stated that physical planning activities like planning of metropolitan areas, control of natural and historical environments, protection of national parks and areas with ecological characteristics, arrangement of coasts and forests, improvement of tourism had to be concerned in separate laws have special circumstances. For this reason, planning and construction power was distributed among a number of ministries and units rather than being held by a single authority (Balamir, 2000). However, the most fundamental issues regarding which institution is authorized in which areas and which scales, how an implementation will be carried out in case of a conflict between authorities have attempted to be solved only in practice (Ersoy, 2001: 16–23). In addition, Balamir (1999: 8–9) underlined that the law (3194) has no special approach related with disasters, the term 'disaster' is only mentioned in article 9 once.

Some adjustments related with earthquake were added by Metropolitan Municipality Law numbered 5216 which was put into effect on 23/07/2004.; These related adjustments are included in METU, Earthquake Engineering 1998 as following sentences:

1. "to prepare and approve geology and convenience for settlement maps which will constitute base for main city development plans in every scale; to approve geology and convenience for settlement maps to be made by district and province stage municipalities in applicable development plan scale" was added in paragraph (b),

2. "to establish geographical and city information systems ", digital database of the cities are required to be prepared by the municipalities by this paragraph (h)

3. in paragraph (i); "to ensure protection of environment, agricultural areas and water basins in accordance with sustainable development principle and to make required adjustments about it ",

4. in paragraph (u); "to make plans and other preparations related with natural disasters in metropolitan municipality scale in accordance with plan made in province level; to provide tools, equipments and materials aid for other disaster areas; to carry out fire department and emergency aid services; to determine production and storage areas of explosive and combustive materials, to audit residence, business place, amusement place, factory and industrial establishments and public institutions in terms of measures to be taken against fire and other disasters; to grant permissions and licenses required by the regulations"

5. in paragraph (v); "To evacuate and demolish buildings having disaster risk and constituting danger in terms of life and property security" to ensure taking required measures about disasters by adding "all kinds of" statement in "to carry out social and cultural services" statement and adding "cooperate with universities, academies, occupational high schools, public institutions and non-governmental institutions" provision at then end of the paragraph in accordance with participatory administration approach,

6. in paragraph (z); "To evacuate and demolish buildings having disaster risk and constituting danger in terms of life and property security",
In addition, 21st article can be considered as a significant Development. It is stated that inclusion of "strategic plan" concept is obligatory in field of planning and making definition of new planning-implementation tools orienting to this concept.

According to Ersoy (2001: 16-23) auditing and participation mechanisms were almost not mentioned during plan making process. There is no institution conducting technical audit of plans prepared. Particularly, development plans made out of the Bank of Provinces are sent to municipality Assemblies for approval without subjecting to any audit in technical terms.

Some amendments may be performed with Assembly decisions in plans related with issues wrong in geological means, these fields may be restricted, completely opened to settlement. Since audit of settlement inhibition in such areas subjecting to disasters is left to local administrations with limited auditing power, they turn into popular spaces for illegal housing and the most uncontrolled housing areas of cities contrary to the situation predicted with the plan (Ersoy, 2001: 16–23).

5.1.1. Risk Reduction in Development Plans

State Planning Organization (SPO) founded a special expertise commission concerning Earthquake and other disasters after 1999 earthquakes. As it has underlined in SPO, any policy or approach have not taken place in this field, even though significant natural disasters and damages have been experienced during Previous Five Years plans periods,

Fourth five years development plan (1979-1983) is important because of the fact that disaster risks can be reduced with protective and preventive measures to be taken before, and settlements and housings should be controlled has been included in the plan for the first time(EC, 2004: 9-10) Fourth Development Plan underlined that 'development plans' turn into the documents functioning for legalizing irregular development considerably instead of solving physical problems of cities and adjusting unhealthy spatial development. That reason causes considerable loss of life and property in every year. Moreover, it was also stated that "special standards and regulations will be implemented in residences to be constructed newly and repair and reinforcement works will be held in existing constructions". However, since sufficient sources are not reserved in annual programs for these works in such issues any effective work was not held during this period (EC, 2004: 9-10)

In the Fifth Five Years Development Plan (1985-1989), villages in places exposed to disaster were privileged and provisions stating that education, application and encouragement activities will be accelerated and village residence types will be developed were included in principles and policies(EC, 2004: 9-10) However, settlement and construction auditing authorizations were completely transferred to local administrations

with 3194 numbered Construction Zoning Law enacted in 1985(EC, 2004: 9-10) Moreover, a very comprehensive construction amnesty made all illegal constructions legal and illegal settlement was encouraged with 2981 numbered law also enacted in this period (EC, 2004: 9-10)

Sixth Five Years Development Plan (1990-1994) focused on principles and policies related with reduce of earthquake and other disaster damages, it was specified that a new auditing system will be developed, use non-standard materials will be prevented in constructions, and technologies appropriate with earthquake resistance construction will be encouraged (EC, 2004: 9-10).

Functions proposed by Sixth Five Years Development Plan (1990-1994) were as followings:

- Tunnel systems were supported,
- use of ready-mixed concrete became widespread in constructions,
- a *National Plan* was prepared in our country for the first time in 1990 in order to reduce earthquake and other disaster damages,
- and new approaches, new legal adjustments and more successful practices occurred in emergency aid and salvage, improvement and reconstruction efforts implemented in Erzincan earthquake happened in 1992 during this period.

However, disasters, earthquake and civil defense funds were included in general budget (1992), and so main resource used in efforts of reducing disaster damages was removed (EC, 2004: 9-10).

Seventh Sixth Five Years Development Plan (1996-2000) included more comprehensive and realistic approaches concerning the efforts of reducing disaster damages. Local earthquake hazard maps were suggested to be prepared with the aim of benefiting in regional and physical planning works in countrywide (EC, 2004: 9-10). It was provisioned to carry out efforts in direction of reducing disaster damages and readjustment of the regulations related with disaster was specified (EC, 2004: 9-10).

Functions handled in the term of Seventh Sixth Five Years Development Plan (1996-2000) were as followings:

- "Research Center for Earthquake Damage Reduction" was established within the Ministry of Public Works and Settlement with the support of Japan International Cooperation Agency JICA,
- A new earthquake hazard map was prepared by the Ministry of Public Works and Settlement in 1996,
- UNDP Project of "Improvement in Disaster Management System of Turkey" began to be implemented in 1997,
- A new earthquake regulations which ensure earthquake security in modern sense was put into effect by the Ministry of Public Works and Settlement in 1998,
- Civil Defense Unions were established composed of 26 professional cadres in Istanbul and 34 professional cadres in Erzurum by the General Directorate of Civil Defense,
- Regulations related with the establishment of a new construction control system were prepared with modifications to increase resistance against disasters in 3194 numbered Public Housing Laws,
- A project draft making different improvements and new adjustments was prepared in disasters regulations (EC, 2004: 9-10).

Although above mentioned measures were taken, the devastating earthquake that occurred in 17 August 1999 has caused all institutions and units of Turkey to review their actions in this field.

Eighth Sixth Five Years Development Plan (2001-2005) gave a wider place for the issue of disaster management compare to previous plans by underlining the importance of minimizing disaster damages and forming social, legal, institutional and technical structure accordingly(EC, 2004: 9-10).

According to report (EC, 2004: 9-10) this plan defined three indispensable tools. These tools are given as follows in the plan:

- preparation of disaster maps,
- disaster based plans and
- an effective construction auditing system

This plan determined “requirement to design the planning process orienting to natural disasters in a whole system and readjustment of relevant regulations”, “insufficiencies in especially development planning, place selection and ground engineering and super structure designs”, “adoption of a curing injury approach instead of creating a disaster management system which will ensure rational use of resources” in the subject of natural disasters in part nine. The eighth plan specifies a series of legal and institutional adjustments to minimize disaster damages. However, only a minority of views and recommendations included in the plan have become a subject of initiative until now (EC, 2004: 9-10).

The term of earthquake was not be mentioned in the ninth development plan (2007-2013). This fact represents that government ignores the earthquake risk. Unfortunately, no precautions were taken into account for decreasing the urban and natural risks in the basic goals of the development plan.

The fact that disaster damages must be definitely reduced for a sustainable development has not been perceived in the planned period. For this reason planning measures related with reducing physical planning studies in every scale which the most rational way in reducing disaster damages were neglected (EC, 2004: 12).

Regulations on disaster management have taken the shape not with a collective forecast and design but with stages and parts according to requirements shaped after disasters in Turkey (EC, 2004: 8). For this reason, adjustment of the issues of “curing injuries” were predominantly considered, but risk management issues have just come to the agenda after 1999. “Disasters law” (7269) and Civil defense Law (7126) focus on especially post-disaster actions, but damage reduction and risk management issues are considerably excluded from the scope of legal adjustment. The development law numbered 3194 has to be renewed the purpose of ensuring risk and security criteria to be primarily based on (EC, 2004: 8).

A special Law concerning regeneration could instead focus only on risk reduction issues in cities throughout Turkey. The identification of priorities for such regeneration processes

could be made by the Ministry of Public Works and Settlement as the central authority, clarifying the scale and timing of each project.

5.2. Suggested Urban Regeneration Law in High Risk Areas

Urban regeneration plans in Turkey should only aim to define and reduce natural, technological and urban risks existing districts in cities, particularly in areas of high natural hazard risks. As mentioned in the foregoing chapters, a comparison of the urban regeneration projects and experiences from Turkey and the world according to risk assessment, risk reduction and risk awareness remains limited and sufficient policies and regulations. For these reasons, there is a need for legal arrangements for a model of urban regeneration in high risk areas. Current draft of a law can be handled for this purpose and this legal document may be called "Urban Regeneration Guidance for Regeneration Plans of Risk Areas."

"Urban Regeneration Guidance for Regeneration Plans of Risky Areas" could be arranged below mentioned topics:

1st Part: Definitions of Urban Regeneration Models at High Risk Areas

- Definition of the Risk Areas
- Definition of Technical specifications

The first part of this draft of a law is probably more informative section. It gives option to clarify the reasons of the choice of the regeneration area. The targets and the strategies of the action plan could be explained and the physical and social information regarding to the regeneration can also be seen in 1st part of the draft of a law.

In this context, understanding the urban regeneration process and coming to an agreement on it, upgrading bad life conditions for the public health, eliminating the physical and social substructure deficiencies, resolving the problems in a coordinated and permanent way, planning the existing urban areas in order to plan new areas and conducting them, re-

supplying the continuity in the urban texture are among the emphasized aspects of regeneration.

Risk issues (risk determination, risk assessment, risk management, risk reduction…) could be handled by a different institution. Ministry of Public Works and Resettlement could take on risk issues. This institution could determine high risk levels in urban areas and give compulsorily defined period (two- year- period) to local authorities for preparing mitigation planning.

2nd Part: The Stages of Urban Regeneration Models at High Risk Areas

- participation in creating visions of urban regeneration projects
- translating the visions into master plans

This part explains the timeline for any each development process. The regeneration process, implementation process, financial and organizational time table could be detailed in this part. Different user groups should be able to participate in such an urban regeneration model. The technical personnel who are responsible for the production of the plan, administrators which are obliged for the implementation of the plan and representations of local people, NGOs could take place as stakeholders of the regeneration project. The object should be to put local community at the center of the regeneration process in order to increase local ownership, leadership, sustainability and management with local referendums and surveys.

3rd Part: Analysis based on Urban Regeneration Models at High Risk Areas

Geological, physical and social analyses could be developped in order to achieve more safe settlements within a well-developed disaster management model. The types of analyses could be as followings:

- Geological structure of the area
- Physical conditions of the buildings in the area.
- Buildings over five storey
- Buildings without fire escape
- Buildings without fire escape

- Construction of the buildings
- Historical inventory
- Front and back garden
- Population density of the area
- Building density of the area
- Overbuilt areas (construction is over FAR)
- Analysis of master plans
- Historical evaluation
- stakeholder analysis

4th Part: Design Parameters

Physical design criteria could be identified in this part of the draft of a law. The urban risks that are caused by design problems could be reduced by rational solutions in risk reduction based urban regeneration model. (See section 2.4.3)

5th Part: Incomes, Expenses, Exemptions

The contractual arrangements involving a smaller number of partners could be in such regeneration scheme where the private or public sector is involved, where substantial sums of money are at stake is crucial.

6th Part: Project Management

The project management aspects relate to the local decision-making, engagement with the local community, the involvement of other groups and interests and determination of the style of leadership in the regeneration project at high risk areas.

7th Part: Implementation

- Turn-key projects for starting of the vision
- Priority of action are

There could be a need to embark on q “key project” to generate credibility and confidence among external investors, or even to demonstrate commitment to the local community.

8th Part: Monitoring and Experience Sharing

- Lessons learned from past experiences

Lessons learnt/Experiences make possible the contact with some other projects inside the Regeneration area, allowing maximizing efforts and establishing partnerships. These experiences permit the appliance of some surveys and the access to data from institutions working in the area.

9th Part: Post Development Management

New measurements and precautions could be also introduced including neighbourhood management, neighbourhood wardens and neighbourhood experience learning centers. A national neighbourhood regeneration unit could be set up to coordinate regeneration activities, with corresponding units at regional and local levels to join up strategies and urban facilities in health, education, housing which are the greatest need of a neighbourhood.

This suggested legal draft could be reinstated wit the last regulations, as flat ownership laws, as well as disaster policy of Turkey.

5.3. Legal Process Concerning Disaster Risks in Turkey

There is no legal process disaster management specific to earthquake in Turkey, structuring of a management system orienting to disasters including earthquake was started beginning from 1940’s (Balamir, 2000a). He underlined the fatalist attitude which has been displayed rather than preparatory and protection efforts against disasters in all arrangements made until now. Discourse of salvation strategy and curing injuries has been main strategy for disaster management in Turkey. According to him, 7269 Numbered Disasters Law and 3194

Numbered development Law constitute the base for fulfillment of these strategies and of disaster management system.

According to Balamir (2001) the Development Law ignores the reality and risks of earthquakes and contains no mechanism or procedure in itself to secure environmental, building and implementation standards for mitigation control. In addition, development law numbered 3194 focuses on the construction of the single buildings; it is obligated to be developed in the context of the urban texture as well as relating the two facts of pre and post- construction facilities.

The disaster information system in Turkey focuses on the pre-disaster period; however, Turkish disaster policy needs to concentrate on settlement. In addition, this system should be managed by central authority to maintain the high standards of livable settlements. The standards of the settlements in high risks have to be revised in the development plans according to the micro-zonation maps. According to Balamir (2001) 'Integrated Disasters Maps' need to be institutionalized and incorporated in the Development Law, making such maps a prerequisite for all plan preparations and revision activities which in turn need be restructured to allow greater local community participation.

Disasters Law in force in Turkey is 7269 numbered "The Act on Aids to be made with Measures due to Disasters Effective in Public Life" which was put into effect on 1959 and still sustains its validity. Erkoç (2001) stated that this act has been amended for four times in order to solve new problems emerged until now. "Province and District Disaster Emergency Aid Plan" is prepared by Directorates of Public Works and Settlement before disaster to constitute base for actions to be held during the course of disaster in order to prevent a possible chaos to occur in case of a disaster with 7269 numbered act. In addition, there are "Civil Defense Plan" made by Civil defense Directorates and "Natural Disaster Aid Plan" made by Armed Forces (Erkoç, 2001). While there is no single central authority responsible from all stages of disaster management in Turkey, the Ministry of Public Works and Settlement is responsible from the coordination of disaster management. Post-disaster emergency aid, salvation and improvement efforts were directly given to the responsibility of provinces and districts by the help of central administration (Kesici, 2002: 53).

Turkish disaster Management system has been focused on post-disaster period. There is no encouragement for the purpose of mitigating the risk or there is no focus on the identification of the risk analysis. Since disaster mitigation is the new field in the management system and development system of Turkey, mitigation in the pre-disaster period has been also ignored. Therefore, the fundamental components of a general policy of disasters in Turkey have been mostly dealing with the post-disaster operations. There has also been a lack of coherence between the disaster management system and development system in Turkey.

Regulations on disasters main principles of which are still in force as it had been firstly enforced before 45 years could not prevent concentration of population and economic activities in regions with high earthquake risk, on the contrary the risk of unplanned and uncontrolled settlement and industrialization more increased in parallel to development. Increase in factors under risk parallel to uncontrolled and unplanned development in each passing day makes regulations on disasters inapplicable and the ratio of affecting this is continuously increasing (Balamir, 2000).

The predominant component of the general thought for disaster strategy in Turkey is like "we will wait and reduce a risk after it occurred". Laws above mentioned have already well exemplified this thinking since they are generally emergency case themed.

5.3.1. Legal Process of Turkish Policy on Disaster Risks

Birand, Ergünay (2001) determined five periods in order to analyze the legal process of disasters in Turkey.

1. Period between 19th century and 1923

"Ebniye (Constructions) Statute" issued in 1848 established rules for settlements in Istanbul, this statute was turned into Ebniye Act in 1882. The aim of these legal arrangements is to adjust city settlements and to create healthy living environments (Birand, Ergünay, 2001).

2. The Period between 1923 and 1944

The responsibility of authorization of the settlements and housings and the duty of constructing residences for people in need was given to the municipalities by "Municipality Law" numbered 1580 which was put into effect in 1930 (Birand, Ergünay, 2001).

Ebniye Law was completely amended with the exception of Articles 4 and 5 with "Municipality Constructions and Highways" law numbered 2290 which was enforced in 1933. New principles and technical responsibility were established in the issues of preparing development plans and new constructions (Birand, Ergünay, 2001).

The Ministry of Public Works Establishment Law was amended with Law numbered 3611 to remove the effects of implementation of "Municipality Constructions and Highways" law which was evidenced in six years. The duty of bringing a base in aid relief works related with natural disasters occurred by favor of non-technical institutions like Turkish Red Crescent, the Ministry of Internal Affairs was given by this Law (Birand, Ergünay, 2001).

Department of Seismology was established in 1934 as a subsidiary unit of Kandilli Observatory and the establishment of MTA (Mineral Research and Exploration Institute) ensured recognition of Geology and Seismology disciplines in Turkey. (Ergünay, 1973)

Kiper (2001) mentioned that post-disaster aids have been focused on first aid, food aid and financial aid for temporary accommodation, reconstruction and repair by Turkish Red Crescent Foundation until 1940's. "After 1939 earthquake with a great Destruction, "Law on Pre-Earthquake and Post-Earthquake Measures" was put into effect on 1944. This law projected determination of dangerous zones, detection of building types and construction techniques appropriate for each region, preparation of first aid and salvation programs, construction of temporary shelters and fulfillment of geological surveys for new settlements. The Ministry of Public Works was assigned for the issues like inspection of public buildings and additional buildings or expropriation in required situations."

3. The Period between 1944 and 1958

As a result of death of thousands of people, injury of ten thousands of people, collapse of hundred thousands of buildings beginning from December 26 of 1939 with great Erzincan earthquake and then Niksar-Erbaa, Adapazarı-Hendek, Tosya-Ladik and Bolu-Gerede earthquakes occurred approximately with seven months of intervals between 1939 and 1944, Turkish Government decided to take some measures. It was understood that results of earthquake cannot be solved only by constructing new houses instead of those collapsed buildings, and some efforts must be definitely taken in the issue of reducing the risks before earthquake. Then, "Measures to be taken before and After Earth Tremors" was put into effect on July 18 of 1944 (Birand, Ergünay, 2001). This law is the first attempt on reducing earthquake risks in Turkey. Gülkan (1992) stated that first earthquake zones were prepared by cooperation of the Ministry of Internal Affairs and universities in 1945 and the first compulsory construction regulations was issued. Zones affected from earthquake before and zones possibly to be affected in future were indicated in the map. The main factor in zoning was earthquake damages occurred in the past.

Development Law numbered 6785which was considered as highly advanced for its time was issued in 1956(Birand, Ergünay, 2001). This law has given importance and priority for the issues of determining natural disaster risks and construction audits with technical responsibility system during the course of determining settlement areas (Birand, Ergünay, 2001).

4. The Period between 1958 and 1980

For the planning period in 1958, the significant policy changes were adopted. Significant efforts were taken in parallel to new developments in international arena in terms of reducing natural disaster damages during the period of 1958 and after in our country.

By the establishment of the Ministry Development and Housing in 1958, earthquake efforts were transferred to the Ministry Development and Housing by law. Issue of "Civil Defense" law numbered 7126 which was put into effect at same year and inclusion of salvation and

first aid efforts required to be performed during natural disasters was formed in accordance with this law. In addition, Birand and Ergünay (2001) underlined that the law numbered 7126 filled a significant gap in the rescuing period of the disaster.

Kiper (2001) stated that the law on Natural Disasters which was issued in 1959 was the extended version of "The Law on Aids to be Made with Measures due to Disasters Effective in Public Life" numbered 7269-1051. In addition, the law numbered 7269-1051 brought all acts issued during the Republican period together in form of a single act in order to reduce damages of earthquake and other natural disasters (Birand, Ergünay:2001).The most significant characteristic of this law was that it prevented additional allowances from the General Budget after each disaster until that time and enactment of a separate assistance act for each disaster event, and projected the formation of a "Disaster Act" out of General Budget for this aim. Thanks to this fund, the state gained the possibility of emergency intervention by use of this fund sterilized from intense bureaucratic procedures during the course of a disaster. According to them, this law which was evaluated as one of the most modern and comprehensive disaster acts and taken as a model by many countries on the date it was issued was considerably amended with 1051 numbered act in 1968 under the light of experiences obtained from earthquakes, floods and landslides intensively experienced in our country in the period 1960-1967 and with the light of the new requirements seven articles were added into the law. These amendments and additions occurred in direction of ensuring services to be held more rapidly and effectively.

5. Post–1980 period

The Development Law numbered 7269 decrees that: the Ministry of Public Works and Settlement is authorized to prepare plans for public constructions, disaster settlements and mass houses and implement plans appropriate with 'Regulations on Shanty Houses' (Birand, Ergünay, 2001).

Since an earthquake which caused great damages occurred in 1992 in Erzincan presented that this earthquake event did not only lead to physical losses but also social-economic losses like immigration, unemployment, etc. (Birand, Ergünay, 2001). Then it was

understood that loss of production and law numbered 7269 did not ensure a decline in such social and economic losses, 3838 numbered "Law on Executing Services Relating to Earthquake Disaster Occurred in Erzincan, Gümüşhane and Tunceli Provinces and Damage and Destruction Occurred in Şırnak and Çukurca" was issued on 28.08.1992 (Birand, Ergünay, 2001). Injuries of Erzincan earthquake were cured and earthquake security was increased in a short period and a completely new Erzincan was constructed with this law (Birand, Ergünay, 2001). "Law on Executing Services Relating to Damage and Destruction Occurred due to Natural Disasters" numbered 4123 was issued on 23/07/1995 because of the requirement for preparing a similar law for similar localities affected by disaster. This law was replaced with the law 16.11.1995 dated and 4133 numbered and some articles were added after 01/10/1995 Dinar earthquake.

After 17 August 1999 earthquake, the Council of Ministers was authorized (in authorization law published in 29 August 1999 dated and 23801 numbered Official Gazette with 27.08.1999 acceptance date and 4452 decision no),

- to ensure continuity of normal life in places exposed to natural disasters in an efficient, effectively and rapidly,
- provide coordination between relevant institutions
- to remove damage and destruction in natural disaster region as soon as possible, (Kansu, Şengezer, 2001).

In addition, construction auditing resolution law drafts were combined and 595 numbered "Statutory Decree on Construction Auditing" were published in 10 April 2000 dated and 24016 numbered official Gazette. 7269 Numbered Disasters Law and 3194 Numbered Development Law constitutes the base of disaster management system, however, it was especially evidenced after 17 August 1999 earthquake that these laws are not appropriate for plans to be held in disaster risky settlements.

Balamir (2000b) underlined the fact that pre-earthquake measures and investments were almost absent in the law numbered 7269 and its regulations (with the exception of construction regulations). Almost all provisions of the act arrange post-earthquake emergency aid and curing injury procedures (Balamir, 2000b). On the other hand,

development regulations adjusting possible physical planning and housing works could not constitute a system with the exception of one regulation projected in construction scale and auditing could not be established in project and practice (Balamir, 2000b). Looking through this perspective, disasters and development arrangements were left independent and remote to each other.

Efforts for being prepared against disasters in national level were clearly defined with the main lines in regulations prepared with the law numbered 7269 (Ergünay, 2000: 1-9). However, action plans required to be prepared by each Ministry and local administrations in conformity with these regulations have not been presented yet (Ergünay, 2000: 1-9). For this reason, central disaster plans and province disaster plans cannot be made compatible with each other and a great gap is experienced in case of a disaster (Ergünay, 2000: 1-9). On the Other hand, Balamir (2000a: 100-125) stated that measures and methods were not determined according to characteristics of different disaster types by differentiating them in the law numbered 7269. A

Ergünay (2000: 1-9,) stated seven regulations[26] including the subject of earthquake issued depending on the law numbered 7269 in Turkey.

The current legal arrangements do not have an integrity and consistency strategy related with the earthquake and other natural disasters (EQC, 2002, 12).In addition, the related public institutions and foundations constitute retrograde mechanisms because of their multi-structural form, instead of generating a systematical foundation (EQC, 2002, 12). On the other hand, central administration that intended to minimize the earthquake loss after 17

[26] 1. Regulations on Emergency Aid and its Organization and Planning Principles Related with Disasters, 2. Regulations on Effectiveness of Disaster in General Life and Fundamental Rules, 3. Regulations on Determination of Those Becoming Right Holders due to Disasters, 4. Regulations on Discounts to be made from Investment Prices of Buildings Constructed or to be Constructed due to Disasters, 5. Regulations on Evaluation of Common Areas from Buildings, Lands and Sites Owned due to Disasters, 6. Regulations on Expenditure Procedures of Disasters Fund Organized with 7269 numbered Act, 7. Regulations on Constructions to be Made in Disaster Zones.

August 1999 made new legal arrangements with decree laws as 'compulsory earthquake insurance', 'building inspection', 'professional specialization'(EQC, 2002, 12). These attempts are the undeniable expectations for Turkey Earthquake Management System which focuses only on post-earthquake operations instead of developing pre-earthquake operations like risk reduction.

5.3.2. Deficiencies in the Current Development System

Balamir (2000a) mentioned the system in accordance with Development law 3194 numbered in force and its regulations does not have an approach specific to disasters, the term "disaster" is only mentioned once and "Regulations on Constructions to be made in Disaster Regions" is referred in article 9. However, there is no arrangement relating to the way of implementing and auditing these measures, documents and maps including fundamental information and technical data required in taking measures about disasters are not also searched. For this reason, there is no such obligation to make development plans only based on them (Balamir, 2000a).

Ergünay (2000) stated that the regulations on auditing of housing and developments in settled areas in terms of disasters makes civilian administration (province/district governorship) "responsible" in 7 269 numbered act but considerably "unauthorized" in development affairs, makes Municipalities "authorized" but "independent" from responsibility. Local administrations do not bear responsibility due to the faults that they ignore the authorization of the constructions, in spite of the fact that they have all the development authorities (Ergünay, 2000). Project, implementation and usage stages of construction manufacturing are uncontrolled in this development system.

There is no investment power related with property and physical adjustment without expropriation and article 18 in the development system. Article 18 is an only one-off tool used to solve problems of a period during which settlements expanded towards outside relating to transition from cadastral order to development order. However, other tools and sanctions are required to orient and organize market environment (Balamir, 2000a; Ergünay, 2000). There are no regulations which can be applied during the design stage other than

engineering measures to be taken in single construction scale (Balamir, 2000a; Ergünay, 2000). While no measure is taken related with planning, any rules and regulations which will orient design and so can provide installation, construction landscaping design, inspection restrictions or auditing of exterior surfaces of constructions were not felt as need (Balamir, 2000a; Ergünay, 2000)

Turkish development system has to have a content which is sensitive to disasters. In addition, this system should be required to gain an internal discipline, a structure including auditing and accountability and have the capability of flexibility and maneuver expanded with more effective tools. Deficiency of the disaster regulations prepared in rural environment of 1950's and regulations relating to development and housing present that Turkish disaster policy has to be updated urgently because today's conditions have been getting changing.

5.4. Notes on the Legal Process

Municipalities and province private administrations will have the responsibility of retrofitting; rehabilitating and destroying the buildings which are belong to the tenants and ownerships without taking their views according to development plans. When a citizen objects the judgments of the development plans, then, this situation is evaluated as 'immediate impressments" which is under the authority of the Cabinet within the context of extraordinary conditions like disaster. Therefore, the responsibility of the impressments is given to the municipalities without taking the decisions of the Cabinet. According to Mutlu (2007:82-83) all the objections for impressments can be ignored; the objections which are about the price of the land can be evaluated within the context of this law. It is intended to evaluate all the manner of the buying and selling processes except the "Public Procurement Law" according to another judgment. This judgment aims to quicken the buying and selling processes, it is because the "Public Procurement Law" delays the procedures of the buying and selling process.

It is provided not to utilize the 18th article of the Development law Numbered 3194 by the draft within the regeneration areas. In other words, the basic reason for not to utilize the 18th article which defines the ownership implementations for justice and equity is the fact

that reorganization of the rent will be shaped within the context of the draft. In addition, the law numbered 2981 will be legislated away with this draft. At that point, most of the rightful who have land script, but have not taken their own land registry will be the victim of the fault of the administration. This legal decision conflicts with the statement of the 10th article of the Constitution of the Republic of Turkey which determines the equity[27]. It is obligated to be given an independent, undefined and underqualified part in consideration of land scripts. As cited in Mutlu (2007: 83) current legal arrangements and all the criticisms designate that the rearrangements of the legal frameworks do not usually reach the scientific procedures.

[27] Article 10 of the Constitution of the Republic of Turkey: All individuals are equal without any discrimination before the law, irrespective of language, race, colour, sex, political opinion, philosophical belief, religion and sect, or any such considerations.

CHAPTER 6

CONCLUSION

Unauthorized modern apartments and shanty areas, centers of attraction created for the sake of rent may cause new risks by attracting new investments and a great number of population and workforce to risky areas. Therefore, urban regeneration can be a puzzling concept in consideration to any of these issues. On the other hand, urban regeneration may take the role of an umbrella scheme that can be utilized to avoid such risks, if it can be devised as a multi-partner tool based on considerations of urban and seismic risks. It also is possible to reduce or remove urban risks by using urban regeneration implementations by emphasizing physical dimension of reconstruction as a tool. The role of planner in the urban regeneration project is considered dominant among other multisectoral participants from the perspective of public welfare. Planners' approaches and their reflections of the public good in space will also change with the new planning approach under new local authority.

While urban regeneration is generally used as a tool for removal of problem areas of a city, removing urban risks and making cities safer could be the primary aim in implementations in Turkey due to natural disasters. The opportunity of forming safe cities both before and after the occurrence of disaster could be obtained within the context of urban regeneration studies.

Urban regeneration projects have important functions like increasing life quality, taking measures against natural disasters, protecting historical and cultural heritage, and preventing potential disintegration, which may cause social inconsistencies. On the other hand, however, many objectives may be obtained with urban regeneration approaches in economic and social terms.

Experiences from the 17 August 1999 earthquake revealed that pre-earthquake physical studies are neglected, and studies are mostly focused to plans of post- earthquake period. For this reason, planning rule guiding to reduce earthquake damages and measures orienting to operate this rule were neglected during the physical planning studies. Yet, in every scale this is the most rational way in reducing earthquake damages. Although efforts were increased in the whole country, and even though earthquake risk is mentioned in almost all sources in the literature, discussion on risk reduction is not considered something necessary. A risk reduction strategy which will continue efforts for next possible disaster even before and after the occurrence disaster should be implemented in different levels in direction of risk reduction.

Reducing earthquake risk could be accepted as an issue of national development and in this all segments of the society from the top level of the government to individual citizens have a responsibility. It is possible with development of policies using all possibilities, well organized and including education and teaching programs continuously shaping and raising awareness in society. Tools to be used in the implementation of these policies are appropriate land use decisions, standards, rules and regulations orienting to building design and construction.

Urban regeneration has three basic dimensions: financing, organization and legal procedures. Financing of an urban regeneration could emphasis its economic bases, transfer of development rights and integration of development rights as well as the bank credits and funds. Organization of the project includes the procedures of the preparation and implementation processes. Projects may be considered by public, public-private sector partnerships. The coordination of actors participating in the regeneration process, conceit of the society, financing, mechanisms and awareness of the public could be synchronized. Legal procedures of an urban regeneration project could promote or prohibit developments. Urban regeneration also encompasses the evolution of everything related to urban life. In other words it could modernize the city, providing a safer life style, increasing resilience to natural disaster risks.

It is ignored to discuss what should be done against earthquake and other natural disasters both in İstanbul and Turkey while Istanbul is being discussed in a ‘global city concept’,

with giant urban regeneration projects as Galataport, Dubai Towers, Haydarpaşa, instead of determining mitigation priorities for the imminent earthquake. However, it has been forgotten that if a devastating earthquake occurred there will not be a city to be globalized by such giant urban regeneration projects. An initiative could therefore be promoted in order to motivate local and central management.

In this study, urban regeneration refers to an approach which underlines earthquake risk reduction, reassessment of urban standardization, reproduction of urban land and development of new facilities within the context of this study that could be handled in a draft law. The negative process could be eliminated with such a draft law within the urban redevelopment cycle.

Turkish cities can be represented as great pools of risks because of underqualified building stocks. The foregoing chapters underlined the fact that there are two opposite approaches in efforts to reduce risks. Retrofitting of buildings is suggested by some professional lobbies as an ultimate method for safety. However, this proposition has economic and legal difficulties, besides the consolidation of the current urban space. Instead, it is essential to develop new policies to focus on areas of high earthquake risk as comprehensive urban regeneration activation and curb further urban expansion at the peripheries. Therefore another approach for safety is comprehensive urban regeneration that is suggested by some planners and academics as a solution method. This study is indented to provide scientific information about urban regeneration for critically risky areas in the cities. This requires a new content of comprehensive urban regeneration. This new policy requires new tools to monitor urban regeneration processes. It is obligatory to make comprehensive plans for high risk areas and to take low income groups into consideration in mitigation action plans, at different levels in high risk areas. Comprehensive regeneration in existing districts, particularly in areas of high risks could provide means and standards of safety not necessarily maintained by the retrofitting of individual buildings. Potentials of regeneration processes are readily observed and practiced by various authorities in Turkey as means of regulating urban regeneration processes, even if for purposes other than safety. A systematical model for urban regeneration has to aim primarily at risk reduction activities and mitigation studies are developed in this study to explore new approach as for planning

implementation. As recent international policies have focused on risks and mitigation activities, such policies have priority as to the urban regeneration of Turkish risky cities. Urban regeneration in Turkey seems like defective components which are subsequently integrated to plans. Regeneration of the cities into safer conditions should be the fundamental provision of socio-economic life. In order to support the risk reduction activities by comprehensive urban regeneration implementations, economic resources and powers, organizational forms of regeneration in such an organization, roles of stakeholders, participation, and social regeneration could be determined for 'earthquake based urban regeneration' model. These points are to be added into the current regeneration draft law to focus entirely on risk areas.

The foregoing chapters evaluated the analysis of selected regeneration projects. These projects indicate that current regeneration practice in Turkey is still far from a comprehensive approach compared with the world experience. Hence, new tools are necessary to solve new problems. First of all, it is obligatory to improve new legal instruments apart from current efforts of legalization to integrate physical, financial and social aspects of regeneration. The new legal provisions should only focus on risk reduction in regenerating the risky areas. Secondly, an integrated method is necessary for the regeneration of risky areas from the beginning to the end of the process. This is to cover financial issues, social regeneration, new jobs, transfer of right owners, and feedback of projects-monitoring system. In this sense, urban regeneration projects should introduce new legal, financial, social, economical instruments, as well as an essential instrument of public participation.

Urban regeneration plans in Turkey could only aim to define and reduce natural, technological and urban risks in existing districts in cities, particularly in areas of high risks. A comparison of the urban regeneration projects and experiences from Turkey and the world indicate that risk assessment, risk reduction and risk awareness concerns limited in Turkey and deficient in forms of policies and regulations. For these reasons, there is a need for legal arrangements for a model of urban regeneration in high risk areas.
Current draft law can therefore be provided for this purpose and this legal document may be called "Urban Regeneration Guidance for Regeneration Plans of Risky Areas." The

implementation tools of urban regeneration and issues like authorization, responsibility, funding, and auditing could be determined in this special law. A new approach for urban regeneration is needed to describe organizational, participatory, financial framework. This guidance for urban regeneration could be enforced by the General Directorate of Technical Research and Implementation according to the 9th article of Law 3194. The Ministry of Public Works and Resettlement could take on responsibilities of risk issues, to determine high risk urban areas and give compulsory periods to local authorities for preparing mitigation plans. A guide for municipalities could facilitate their performance. A simple flow diagram of the process and procedure of urban regeneration at high risk areas can be represented as below:

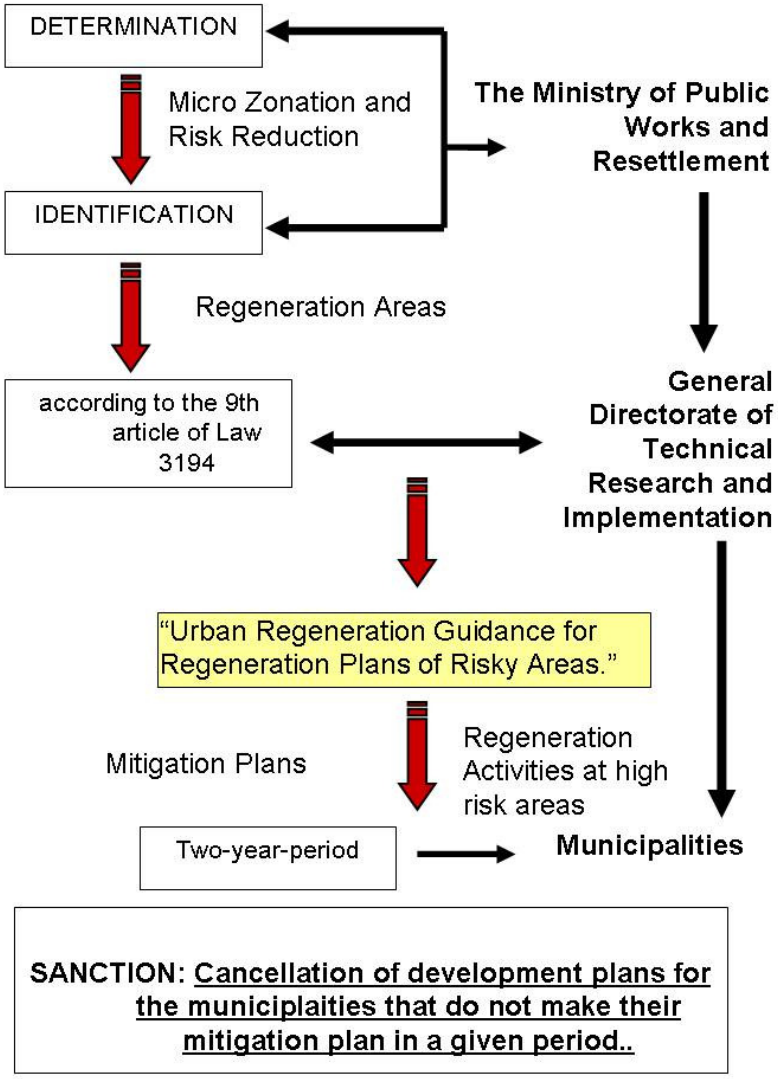

Figure 36 A Chart-flow of Urban Regeneration

A special Law concerning regeneration of high risk areas could instead focus only on risk reduction issues in cities throughout Turkey. The identification of priorities for such regeneration processes could be made by the Ministry of Public Works and Settlement as the central authority, clarifying the scale and timing of each project. Other urban

regeneration issues could be determined in the 'Development and Urbanization Law', which came into agenda as a reform scheme for current laws for a decade.

Municipalities are fully empowered to designate regeneration areas and carry out redevelopment activities often providing increased densities ton compensate for the costs. This has been reinstated in the new draft law. Rather than a separate law, general regulation of regeneration could be accommodated in the Development Law 3194.

Regeneration planning concerns will more strongly be in the agenda and 2009 urbanization council due to many reasons besides natural hazards in Turkey. Introduction of a new approach for urban regeneration at high risk areas was the matter of this study. For that reason, this study aimed to develop a new approach to the draft law for urban regeneration at high risk areas. Further studies are necessary for identifying effective tools for local authorities and develop a strategical planning scheme involving mitigation plan that takes urban risks into consideration at high risk areas in Turkey. The foregoing chapters of the study underline the disaster risk reduction in urban regeneration process as following:

- development of the legal frameworks urgently for urban regeneration focusing only on risk reduction strategies at high risk areas,
- Adaptation of the financial framework for neighbourhood regeneration unit,
- establishment of the strategical methods for determination of risk areas at national, regional and local levels,
- improvement of the post- development management system based on mitigation activities,
- development of the participational framework for risk reduction based urban regeneration model

This study will develop with the contribution of legal framework and financial aspects of urban regeneration at high risk areas, like doctorate thesis work or other comprehensive researches.

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APPENDIX A

A DRAFT OF A LAW FOR REGENERATION AREAS

Aim

ARTICLE 1- (1) The aim of this law is to determine all manner of the occupations, procedures and principles of the urban regeneration in order to compose settlements which are sensitive(?-resilience) to the hazards and urban risks and are suitable for scientific, technical, art and health rules irrespective of that they have a development plan or not in all urban or rural areas or to determine the rehabilitation, clearance, regeneration and redevelopment of the outdated and dilapidated building stock where the social and technical infrastructure is insufficient and under qualified.

Scope

ARTICLE 2- (1) This law comprises

- all manner of the occupations and procedures about the rehabilitation, clearance, regeneration and redevelopment of all manner of the plots and lands and all the buildings located in these areas and also the areas which are controlled by exchequer, province private administration, public institutions, municipalities
- and foundations with the regeneration based development plan prepared in accordance with this Law in the determined regeneration areas and
- implementation of the projects, arrangements of lands /plots, foundation of project stakeholders, management of the financial support for housing, trade, industry, recreation, technical and social infrastructure and other investment needs of the settlement.

(2) This law can not be implemented in the operational instructional and defense fields of Turkish General Staff.

Definitions

ARTICLE 3- (1) For the implementation of this law;

a) Regeneration Area can be defined as an area whose border is determined by the administrative council for the purpose of implementing the foresighted aims of this law.

b) Regeneration Based Development Plan is the plan which is prepared in accordance with this law and approved by the administrative council.

c) Regeneration Based Parcellation Plan: conveys the plot plan which is prepared administratively as required by the Improvement Law numbered 3194 and dated 3/5/1985(in the event of a related proviso's absence) and which is put up in the related areas, registered after it's legal approval at the end of thirty days put up period with the assessment of the objections made by administration council, that is notified to the owners by being put up in the headman desks and which is based on building license.

ç) Administrative authorities can be determined in this law in order to have the responsibility of implementation as;
- The municipalities between the municipality and neighboring area borders and
- The province private administration out of the municipality and neighboring area borders
d) Project can be determined as a regeneration project which
1.comprises rehabilitation, clearance, development and investment steps in accordance with the Regeneration Based Development Plan and the procedures and principles of urban design which are determined with this plan
2.is prepared or allowed in order to prepare by administration
3.is approved by administration,
4.is planned step by step throughout the regeneration area
e) Project Stakeholders convey the partnership or partnerships which come together with legal process based on an usual corporation, made up one by one or together, by natural or juridical persons irrespective of a property they have or not at the regeneration area and the public foundations' and institutions' participation, including administration in order to carry out the projects prepared in accordance with decisions of regeneration based development plan.

Basic Principles
ARTICLE 4- (1) Implementation has been done on condition that the opinions and propositions of related foundations' and institutions' are received at the areas in accordance with these laws-Natural Property and Cultural Heritage Law numbered 2863, Natural Parks Law numbered 2873, Environmental Law numbered 2872, Bylaw of The Environmental Protection Agency for Special Areas Equivalent to Law numbered 383, Coastal Law numbered 3621, Boğaziçi Law numbered 2960, Mining Law numbered 3213, Forest Law numbered 6831, Village Law numbered 3202, Land Protection and Land Use Law numbered 5403, Grassland Law numbered 4342, Turkish Civil Aviation Law numbered 2920, Precautions For Hazards Effecting General Life Law numbered 7269.
(2) Rehabilitation and regeneration judgments can not be applied to the current buildings at the places to be restricted as a result of the principles which take part in specific laws or planning etudes except the ones which are determined as a conserved building because of their natural, cultural and historical property by the conservation committee in this Law. However, the judgments on clearance are applied on condition that the holder of the right is concealed.

Determination of Regeneration Area
ARTICLE 5- (1) Regeneration area which is not smaller than five hectares is determined
1.by the municipality council between the municipality and neighboring area borders
2.by the province general council out of the municipality and neighboring area borders
3.by the municipality council in greater municipalities on the condition that options of the local authorities are received with the decision of quorum of the council members.
(2) Borders of the regeneration area are announced in the related areas which are determined by the administration for thirty days after its legal approval. The border of the regeneration areas can be objected in this period. If border of the regeneration areas have not been objected at end of the approval date, they are also validated with the decision of administration without any permission of council's judgment. Objections are investigated in

the first council meeting and they are validated with the decision of administration at least thirty days without being put up.
The decision of the borders of the regeneration area is notified
4.to the registers office in order to register the properties inside the regeneration area
5.to the government office where cadastral records are kept in order to represent at its own large map
The alteration of the registration of the real estates is notified to the administration. The borders of the regeneration area which are definitive are notified by administration.
(3)Since the determined area is deficient for regeneration in order to make clearance, rehabilitation, redevelopment and new investments, then, one or more regeneration area can be determined as a regeneration area on the condition that they are

- interrelated with the regenerated area
- specified in the same council decision
- not less than five hectares

(4) Regeneration areas can be included the renewal areas which are defined in accordance with the Preservation by Renovation and Utilization by Revitalizing of Deteriorated Immovable Historical and Cultural Properties Law numbered 5366.
(5) The areas and plots which belong to the exchequer and the areas which can be registered except the operational instructional and defense fields of Turkish General Staff can be assigned to the administration in accordance with the 4th judgment of the law numbered 5366.
(6) The recognized price of the area which belongs to the exchequer and has a public building is paid on the condition that there is no need for this public service and if the area is kept for another use according to the regeneration based development plan.
(7) The public foundations' and institutions' which must be moved to another area in accordance with the regeneration based development plan and the public foundations' and institutions' can be constructed and the plot of the buildings can be provided by administration irrespective of that they are located inside or outside of the regeneration area on the condition that the opinions of related public foundations' and institutions' are received

Planning and Construction at Regeneration Areas

ARTICLE 6- (1) With the regeneration area borders become absolute, plan, plan modification and parcellation plan, parceling out and combination, sharing rights foundation, designation, building license and building usage authorization and approval and all the procedures for flat sharing and flat ownership are abolished until regeneration based plans become absolute and all the construction activities are temporarily abrogated. Administration council is responsible with the procedures for the continuation and re-evaluation of the licensed constructions when necessary. The requests which are defined at the 5th article and the 2nd law paragraph of this law for the registered real estates can not responded by the register office. The constructions at the regeneration areas must be completed and the building usage authorization documents must be arranged at least 5 years after parcellation plans are registered.
(2) An independent part from the social buildings or other buildings built within the regeneration area borders can be given to the ownership of the squatter's houses, unregistered buildings who has a record for these buildings built before the date 12/10/2004 on the condition that the loan must be paid at the maturity for 20 years period.

(3) Administration is responsible with the preparation of the regeneration based development plan and parcellation plans and approval of these decisions in three years after the regeneration areas become absolute. The master plans are revised for regeneration in three months if necessary. Changes at the regeneration areas in the master plans are approved by the
1.greater municipality within the metropolitan areas,
2.municipalities within the municipality areas
3.Province private administration for others.
(4)Related public foundations and institutions must primarily complete the preparation of all the manner of the data base and other required data, documents and opinions which are related with the regeneration areas for in three months. In the event that these documents are not given, the suitable opinion and permission is allowed on the condition that the responsibility is taken by the related foundation or institution.
(5) Regeneration based development plan is prepared within the regeneration area, and is a total document with all the illustrative schemas and reports which include the distribution of the development rights, transference of the development rights, population density, land use and built-up decisions, gathering areas, evacuation corridors, clearance and renewal areas. All implementation issues are projected in accordance with the decisions of the regeneration based development plan.

Implementation at Regeneration Areas
ARTICLE 7- (1) Administration is responsible with conservation, usage, reinforcement, improvement, renewal and clearance of the current buildings and their surroundings in accordance with the decisions of the regeneration based development plan. These buildings will be considered as the buildings which are built by administration and it is obligated that the responsibility of these buildings belongs to administration and institutions which are juridical persons according to the 26th article of the Development Law numbered 3194 with the implementation projects or public foundations and institutions according to protocols.
(2)Administration is responsible with the followings

- to arrange the plots, lands and projects,
- to make expropriation, to purchase the development rights assestment
- to exchange the independent parts of the real estates
- to transfer the development and ownership rights of the real estates to another area,
- to apply methods which are based on public and private partnerships,
- and to establish a company for public and private partnerships without any permission or to join to a current foundations
- to establish a project-based real estate investment trusts as a juridical person with private sector or to join current ones
- to built or (to get built) a construction as a flat received from contractor for landownership
- to determine the plot sharing and to allocate this sharing in accordance with the Flat Ownership Law dated 23/6/1965 and numbered 634,
- to split or to merge the sharing in order to apply the plan decisions.

(3) Administration is responsible with appraisal, implementation, allocation of the ownership rights, and alteration of sharing, registration of the buildings which are constructed at the implementation areas. If it is determined to be used appraisal-based method in the regeneration-based development plan, it is specified by the administration that, the actual value of the real estate have been evaluated by the real estate appraisal firms

before and after the ownerships of real estates have been arranged. The ownerships are distributed according to the appraisal-based method after decreasing the investment and additive share of administration with the actual value of the real estates which are determined before and after the ownerships of real estates have been arranged. Administration is responsible with the registration of the buildings which are constructed at the implementation areas with the divided into shares or complete shares of the ownerships of the real estates in accordance with this distribution Floor ownership and law easement of floor of real estates whose register and implementation have been became definite before is cancelled with the demand of administration. This issue is transferred to the register office and cadastral office. The judgments of this Law about determination and implementation of the appraisement based method is arranged with a regulation which is made by administration.

(4) In order to execute the aim of this Law within regeneration areas for local conditions, the administration is entitled

- to determine and apply special judgments and standards
- to grant of a Law easement about usage and management of the plots and buildings,
- to establish a corporative partnership,
- to prepare and apply a corporative project management,
- to impose temporary and permanent limitations on savings of the immovable properties by laying down incentive and determent conditions. If there is a temporary and permanent limitation about savings of the immovable properties, the administration serves a process to the related person and expounds to the register office after the council's approval.

(5) Administration is responsible with

- having owners do the implementation of the law sanctions such issues as building front, veneer of the building front, roof properties, eaves of the buildings which are not appropriate for the local texture or architectural concepts in urban silhouette within the urban design projects which are approved by administration and regeneration based development plans on the condition that council decision is received in the determined time of period,
- bringing sanctions about owners who do not make the instructions
- encasing the extra twenty percent of the expenditures from owners who do not make the instructions.

(6) In the regeneration areas, it is essential to come into agreement by taking the evaluation belonging to the whole plan and physical status into consideration, on the vacation or demolition of the buildings which are adequate to the regulations. Within the agreement the administration can assign temporary dwellings or can make rental support to the independent section owners until the project has been applied. If the stakeholders can not be accommodated on the agreement, expropriation process is made on these immovable real estates. Objections can only be made to the expropriation cost. The administration takes the measures which are necessary in order to prevent the unjustly treatment to the inhabitants of the regeneration area. The expropriations are among the expropriations which aimed the realization of the housing projects belonging to the second article of the 3rd judgments of the Expropriation Law and they are considered as urgent expropriations which will be done without taking the decisions of the Cabinet. The afore mentioned provisions are also valid for the immovable properties whose the ownership section is open at the title-deed and whose inheritor is anonymous, which has a trustee and which is under dispute. The administration is responsible with declaring an administrative inheritance sentence and

carrying out the process according to the last owner registered in the title-deed for carrying out the expropriation process.
(7) Real estate ownership can be translated to the movable piece of a property at the regeneration areas. Real estate certificates and movable piece of a property certificates can be given by administration or project stakeholders in consideration of smaller and particular pieces of lots or price of immovable can be translated into liquid.
(8) Infrastructure investments as road network, electric, drainage system, natural gas, communication and transportation services which are powered by public foundations and institutions must be completed in the same period of other regeneration projects with the coordination of the administration within regeneration areas. Technical infrastructure investments can be implemented in accordance with the decisions of development plan and decisions of technical infrastructure council which is established with the coordination of administration within regeneration areas and other areas. These investments are implemented in accordance with the 8th article of the Greater Municipality Law numbered 5216.
(9) The authorities and duties except building license and building usage authorization which are used by administration have been executived by Housing Development Administration of Turkey in accordance with the articles of protocol made with administration on the condition that authorities which are given by Mass Housing Law dated 2/3/1984 and numbered 2985 and other laws are kept.
(10)The owners of the buildings

- which live in the regeneration areas and whose houses are adequate to the zoning and development plan aiming regeneration-based plan
- and the subdivision plans or the regulation rules of the time that it had been built,
- and which have the report prepared by the administration council declaring that the building has the collapse risk in case of a foreseen disaster because of the situation of the ground or the building,
- and the removal of these danger is only possible by a renovation or consolidation
- have to have the consolidation projects prepared within the time given beginning from the declarations,
- and have to have them certified by the administration and they have to take building license
- and they have to carry out the projects during the time beginning from the license date.

For the buildings which have for flat sharing and flat ownership, the owners' concurrence is not asked for the consolidation and renovation procedures which will be carried out according to the declarations given. All of the owners have to afford all the costs in proportion with their shares. Tax, duty, fee and price are not taken for the preparation of the certificate of occupancy and building license intended for the consolidation projects. If the consolidation process is not completed within the given duration or if the hazard is not cleared away (reduced?) by demolishing the building, the building is sealed by the administration. And if it is not completed during the additional time given, the building is consolidated due to its status and the consolidation cost is collected from the building owners. In case of the impossibility of the consolidation of the building, it is demolished by the administration.
(11) Administration pursues and accomplishes all the manner of the procedures and issues about the determination of the risky buildings which are decided to be collapsed and the determination of the ownerships at the implementation area, accommodation of the

temporary and permanent housing, rental support, housing designation, evacuation process without verdict, accommodation of the renters

Incomes, Expenses, Exemptions

ARTICLE 8- (1) The source which is required for the purpose of preparing the plan, parcellation plan and implementing the projects is paid from the budget that is created for projects.

(2) Administration and other public foundations and institutions must take measures in order to apply regeneration-based development plans and implementations on time and they must create funds or in and out alternative financial source for the projects.

(3)All the properties and services which are in the extend of this Law are subjected to the 8th judgment of the 3rd article of Preservation by Renovation and Utilization by Revitalizing of Deteriorated Immovable Historical and Cultural Properties Law numbered 5366 and the produced buildings and workplaces are subjected to the first sentence of the 3rd judgment of the 69th article of Municipality Law dated 3/7/2005 and numbered 5393. This judgment of this Law is arranged with a regulation which is made by administration with the decision of administration council.

(4) All the manner of the occupations and procedures of the documents, plans, projects and constructions and payments and dues of the contracts, registrations done by administration and working capital fees are exempted from all the manner of taxes, fees, payments as value added taxes (VAT) and private excise taxes within regeneration areas in the period of 5 year time of the approval of the regeneration based developments. Exemptions are ended with building usage authorization without any time reference.

(5) All the regeneration area is not smaller than five hundred hectares,

In addition of the foresight of other laws,

-10% percent of the overall budget, tax and income sources calculated by Republic of Turkey Ministry Finance for 1st and 2nd earthquake zones and max.5% percent of this budget for other earthquake zones have been transferred for max. five period-years to the financial accord of administration who make regeneration areas decisions certain to the last day of next month in accordance with the ratio determined by the council. This revenue can not be used illegally.

Various Judgments

ARTICLE 9- (1) Administration principally apply the judgments of Development Law numbered 3194 and the judgments of 69 and 73 articles of Municipality Law numbered 5393 for the points which are not underlined in this Law.

(2) The lawsuits of the property owners who have been living in regeneration area sued and sealed primarily.

(3) The article 18 of Development Plan numbered 3194 can not be implemented for the arrangements of evaluation based administration at the regeneration area. The arrangement of the partnership interest which have been already taken before must be considered for the evaluations of the properties.

(4) The judgments of this Law are applied for the points which are not underlined in North Ankara Entrance Urban Regeneration Project Law numbered 5104 and dated 4/3/2004

Regulation
ARTICLE 10- (1) Administration can sue implementation regulations in accordance with the local conditions and location and current status of the regeneration area on condition that they must take a decision from the administration council.

Legislated Away Regulation
ARTICLE 11- (1) Reconstruction Law And Against To Shanty Regulations Which Will Be Applied Some Procedures Numbered 2981 and dated 24/2/1984 and Law About Modification of An Article of Development Law Numbered 6785 About legislated away.

TEMPORARY ARTICLE 1-Administration ends the process of the determination of the ownerships who has appealed in accordance with the Law numbered 2981 which is repealed with this Law but has not ended with the validity date of the 11th article of this Law within one year. An independent part from the social buildings at the regeneration area will be given to the people who are not given their land registers although they are determined as rightful owners within a program which does not effect the finance of the regeneration. The ownerships who has not paid land price according to the Law numbered 2981 will pay the required land price to an administrative office who implements the project

Validity
ARTICLE MADDE 12- (1) The 11th article of this Law will become valid 1 year later, however, other judgments of these Law become valid on date.

Executive
ARTICLE 13- (1) Council of Ministers executes the judgments of this Law.

GENERAL REASON
In order to establish a safe development order, the cities should be developed according to a plan which has a detailed investigation of their local conditions. However as a result of the tendency of rapid urbanization existing since 1950's and the development levels between the regions, the population and the investments are accumulated irregularly on certain regions and after the migration from rural areas to the cities, some irregular, unhealthy and unsafe residential areas appeared. Moreover, the protection areas in these regions are partly destroyed and the building zones which are uncertified and contrary to the law appeared on the agricultural areas, forests, river basins and on the ground that's unsuitable for construction. And the social, economic, cultural, psychological and physical matters which are the reasons of afore mentioned situation has been getting improved.

It is seen that the laws enacted in the past adopted two ways as a solution for the squatter's house problem. One way is to take down the shanties and to protect the construction of the new ones. Another way is to enable the needy and the poor acquire building lands. These approaches haven't solved the problem. Moreover, the researches have shown that, the squatter's house costs more expensive than the social buildings presented by the public. And this method couldn't exceed more than to translate the public lands into the individuals' private buildings and had no use except answering the need of the local and temporary inhabitance. The rents created by the city with plans have not been used for public welfare by returning the rents to the city again, because of the fact that individual

benefits came into prominence the rents are turned into a social assurance than answering the need of squatter's house problem.

It is pointed out in 56th article of our Constitution that; everybody has the right of living in a healthy and balanced environment and both the Government and citizens are responsible for improving the environment. And the 57th Article points out that, the Government is responsible with taking precautions for providing the building needs in the frames of a planning which protects the properties of the cities and the environmental circumstances.
In order to render the physical environment safe, well-qualified and livable; the areas which have the risk of disaster, and the physical, social and economical dilapidated areas, the natural, historical and cultural environments which have to be protected, must be subjected to clearance, renewal and rehabilitation in the scope of regeneration plans and projects with having a high opinion of public benefit.

The law numbered 5366 which is enacted lately points out the renovation and the protection of the immovable historical and cultural properties in the areas that are registered and noticed as a site area. And the 73rd Article of the Municipality Law numbered 5393 authorizes the Municipalities for declaring urban regeneration and development areas and applying the regeneration projects in these areas. The Article is being limited with only the Municipality areas and the inexistence of the judgments on urgent implementation which have to be organized by law, make a general arrangement necessary.

With this arrangement, the uncompleted procedures up to now which are in extend of the Law numbered 2981, will be taken into this Law and it will put an end to the unjustly treatment to the citizens and this law will be validated away.

ARTICLE REASONS
ARTICLE 1- It is aimed to determine the procedures and principles of rehabilitation, clearance, regeneration for the purpose of developing settlements which are

- suitable for scientific, technical, art and health rules
- are in accordance with the sustainable and economical development,
- are sensitive? **(resilience)** to the hazards
- protect, keep alive and improve the natural, historical and cultural environments and ecosystems regarding public welfare and social justice at the urban standards irrespective of that they have a development plan or not in all urban or rural areas

ARTICLE 2- All manner of the occupations and procedures about

- the rehabilitation, renew, clearance, and redevelopment and exchange of the ownerships of all manner of the plots and lands and all the buildings located in the determined regeneration areas except the operational, instructional and defense fields of Turkish General Staff,
- implementation of the projects , preparation of development plans of the determined regeneration area
- arrangements of lands /plots, is arranged in this Law.

ARTICLE 3- Some of the concepts are defined in the Law.

ARTICLE 4 It is specified that the implementation will be done in accordance with the Laws- Natural Property and Cultural Heritage Law numbered 2863, Natural Parks Law numbered 2873, Environmental Law numbered 2872, Bylaw of The Environmental Protection Agency for Special Areas Equivalent to Law numbered 383, Coastal Law numbered 3621, Boğaziçi Law numbered 2960, Mining Law numbered 3213, Forest Law numbered 6831, Village Law numbered 3202, Land Protection and Land use Law numbered 5403, Grassland Law numbered 4342, Turkish Civil Aviation Law numbered 2920, Precautions For Hazards Effecting General Life Law numbered 7269-which have direct effects on the limitations of the functions and usage of the land and buildings located on the regeneration areas, on the condition that the opinions and propositions of related public foundations' and institutions' are received

It is foresighted that; the buildings which are located at the places to be restricted as a result of the principles which take part in specific laws or planning etudes which are determined as coastal zones and forests can be cleared from these zones and the ownerships of these buildings can demand a new residential and working space at the development area in accordance with the Law. Related authorities are vested with the determination of the procedures including in situ (meaning "in place") conservation process regarding local properties of the building and the conservation area; on the condition that buildings which are determined as a conserved building by the Natural Property and Cultural Heritage committee are located within these areas.

It is specified that; planning and implementation authorities of the areas including regeneration based development plan which are given to other public foundations' and institutions' in accordance with related laws except administration has executived by administration on condition that the opinions and propositions of mentioned public foundations' and institutions' are received. Hereby, coming to a standstill of the implementations which are caused by the administration conflicts on planning issues and monopoly of the occupations and procedures are aimed with this article of Law.

ARTICLE 5 It is specified that the areas
1.which are vulnerable to urban, natural and technological disaster hazards and risks,
2.which are social, economical or physical dilapidated areas
3.which are determined as a conserved environment and ecosystems because of their natural, cultural and historical properties
4.where the current social and technical infrastructure is insufficient and under qualified
can be determined to rehabilitate, clearance, and redevelop in order to conserve, redevelop and to solve the settlements and built-up problems in accordance with the sustainable development principles on the condition that these areas are notified as "regeneration areas". It is obligated to include at least five hectare regeneration area in order to discuss holistic approach instead of fragmental approach in accordance with the 73rd article of the Municipality Law numbered 5393.It is specified in this Law that the borders of the regeneration area can be determined with the decision of quorum of the council members. While it is foresighted that the borders of the regeneration area which are definitive should be notified for the purpose of public participation and the decision of the regeneration area and the borders of the regeneration area within thirty days period should be objected, however, it is notified to make objections definite by the administration. The borders of the

regeneration area which are definitive have to be notified by administration to the public opinion.

It is pointed out that the regeneration areas can be specified in the same council decision because of the fact that one or more regeneration areas can be determined partly or entirely at other parts of the area but they can not be considered as different parts of regeneration area; both private Laws and results of the planning etudes if there is any determined area to redevelop.

Regeneration areas can be included the renewal areas which are defined in accordance with the Law numbered 5366.

The areas and plots which belong to the exchequer and which are located in the regeneration area and the areas which can be registered according to the development plan can be assigned to the ownership of the administration for the purpose of making regeneration easily.

The land which is located in the regeneration area and which belongs to the exchequer has a public building on it; the price of land is paid on the condition that there is no need for this public service and if the area is kept for another use according to the regeneration based development plan.

In order to keep on the public duty systematically, the public foundations' and institutions' which are located at the regeneration area and which must be moved to another area and the public foundations' can be constructed by administration and the plot of the buildings can be also provided by administration, too.

ARTICLE 6- (1), Plan, plan modification and parcellation plan, parceling out and combination, sharing rights foundation, designation, building license and building usage authorization and approval and all the procedures for flat sharing and flat ownership and all the construction activities within regeneration areas are abolished in order to prevent to occur new rights while renewing the area in the simplest way when regeneration area borders which are determined by the administration council has became absolute. Administration is responsible with decision making about the usage of the current buildings permanently or temporarily

While the ownership of the unregistered buildings and squatter's houses who has a record for these buildings built before the date 12/10/2004 and the people who stay in these buildings have primarily had an independent part from the social buildings or other buildings built within the regeneration area borders on the condition that they pay all the loan and also the problem of the clearance of the squatter's houses and the sheltering need will be solved.

Administration is responsible with the preparation of the regeneration based development plan and parcellation plans in three years after the regeneration areas has became absolute in order to perform this Law's in terms of not causing person's injury . Furthermore, the master plans are revised for regeneration in the given time period determined in the Law.

Changes at the regeneration areas in the master plans are approved by the greater municipality or municipalities or province private administration.

It is obligated that related public foundations and institutions must primarily complete the preparation of all the manner of the data base and other required data, documents and opinions in the given time determined in the Law in order to begin planning process immediately at the regeneration areas.

It is specified in the Law that regeneration based development plan is prepared -if it is determined within regeneration area or other- with urban design and urban environment arrangement projects, financial and organizational projects and implementation stages within regeneration area including it's developed area.

ARTICLE 7- Administration which is determined with this Law is responsible with conservation, usage, reinforcement, improvement, renewal and clearance of the current buildings and their surroundings intended for the decisions of the regeneration based development plan. It is specified in this Law that all the manner of the registrations of the buildings will be done by administration. The buildings will be considered as the buildings which are built by administration and these buildings are included according to the 26th article of the Development Law numbered 3194.
Administration is responsible with the followings

- to arrange the plots, lands and projects,
- to make expropriation, to purchase the development rights integration
- to exchange the independent parts of the real estates
- to transfer the development and ownership rights of the real estates to another area,
- to apply methods which are based on public and private partnerships,
- and to establish a company for public and private partnerships without any permission or to join to a current foundations
- to establish a project-based real estate investment trusts as a juridical person with private sector or to join current ones
- to built or (to get built) a construction as a flat received from contractor for landownership
- to determine the plot sharing and to allocate these sharing in accordance with the Flat Ownership Law
- to split or to merge the sharing in order to apply the plan decisions.

Administration will decide the tools above which will be used in accordance with the local characteristics.

In case the occupations and procedures of the implementations which will be done by administration appraisal-based method is determined to be used as a tool in the regeneration-based development plan, the procedures are specified.

It is specified in this Law that if there is a temporary and permanent limitation about savings of the immovable properties by laying down incentive and determent conditions which are decided by administration council, the administration serves a process to the related person and expounds to the register office in order to execute the aim of this Law immediately.

Administration is responsible with having owners do the implementation of the law sanctions of the buildings which are not appropriate for the local texture or architectural concepts in urban silhouette with the decisions of administration council. It is also specified that administration will do the required implementation on the buildings and will get expenses back from the owners who are not make the instructions in the given period of time.

In the regeneration areas, it is essential to come into agreement with ownerships and administration by taking the evaluation belonging to the whole plan and projects, on the vacation or demolition of the buildings which are adequate to the regulations. According to the agreement, the administration can assign temporary dwellings which belong to the administration. If the stakeholders can not be accommodated on the agreement after arrangements process, expropriation process is made on these immovable real estates. It is specified that the ownerships can only dispute the expense of the expropriations. These expropriations are considered as urgent expropriations which will be done without taking the decisions of the Cabinet among the expropriations which aimed the realization of the housing projects belonging to the second article of the 3rd judgments of the Expropriation Law. The afore mentioned provisions are also valid for the immovable properties whose the ownership section is open at the title-deed and whose inheritor is anonymous, which has a trustee and which is under dispute in order to renew the area immediately.

It is principal that the real estate ownership into the movable piece of a property can be translated. at the regeneration areas and the property certificates for movable pieces can be given by administration or project stakeholders in consideration of smaller and particular pieces of lots or price of immovable can be translated into liquid.
It is foresighted that infrastructure investments as road network, electric, drainage system, natural gas, communication and transportation services and project implementations must be completed simultaneously in the same period of other regeneration projects after the registrations of plans with the coordination of the administration within regeneration areas. The administration takes the measures which are necessary in order to prevent the unjustly treatment for the people who live at the regeneration area. Furthermore these occupations and procedures will be executived in accordance with the opinions and decisions of the technical infrastructure council with the coordination of the administration at all areas irrespective of that regeneration area or not.

The occupations at the regeneration areas except the decisions which are taken by administration council, the issues which are decided by administration council and the issues about the arrangements of building license and building usage authorization have been executived by Housing Development Administration of Turkey in accordance with the articles of protocol made with administration.

The owners of the buildings who live in the regeneration areas and whose houses are adequate to the zoning and development plan aiming regeneration-based plan

- and the subdivision plans or the regulation rules of the time that it had been built,
- and which have the report prepared by the administration council declaring that the building has the collapse risk in case of a foreseen disaster because of the situation of the ground or the building,
- and the removal of these danger is only possible by a renovation or consolidation

- have to take measures which are necessary in order to maintain life and property lost.

It is specified that above mentioned technical reports will be prepared both administration and the owners of the buildings and these reports will be registered by the administration council. It is not asked for the consolidation and renovation procedures which will be carried out according to the declarations given for the buildings which have for flat sharing and flat ownership. This adjustment is arranged for all the buildings irrespective of that they are located at the regeneration are or not. Tax, duty, fee and price are not taken for all implementations in order to minimize the expenses and provide life and property safety urgently. If the process is not completed during the time given, administration is responsible with the demolishing the building and the building is sealed by the administration.

Furthermore, it is foresighted in this Law that the measures about sheltering need will be taken for people who live in the risky buildings which are decided to be collapsed and the determination of the ownerships at the implementation area.

ARTICLE 8- In this article procedures of mapping, planning, parcellation planning and project implementation and occupations of construction are included at the areas which are notified as regeneration areas

It is obligated to arrange and allocate the budgets in order to implement the regeneration and complete unfinished works and plan and project that are done by administration in accordance with these judgments of the article at the regeneration areas. Moreover 10% percent of the overall budget tax income sources at 1st and 2nd earthquake zones and max.5% percent of the overall budget tax income sources to at other earthquake zones have been transferred to the administrations in accordance with the ratio determined by the cabinet in order to built healthy and safe settlements. There is also an arbitrament concerning that those resources can not be used illegally. In order to apply the occupations and procedures at the regeneration areas rapidly, these acts are exempted with this article of the Law from Public Procurement Law except the arrangements about punishments and tender banning. On the other hand regeneration acts are exempted from all the manner of the taxes, fees and prices in order to apply the plans and projects, complete the constructions on time and encourage regeneration.

ARTICLE 9- It is ruled in this Law that the judgments of Development Law numbered 3194 and the judgments of 69 and 73 articles of Municipality Law numbered 5393 are principally applied for the points which are not underlined in this Law. according to its relation and subjection

The lawsuits of the property owners who have been living in regeneration are area sued and sealed primarily for the purpose of resolving the implementation of regeneration urgently.
It is represented that the article 18 of Development Plan numbered 3194 can not be implemented for the arrangements of evaluation based administration at the regeneration area. Moreover, it is explained that the arrangement partnership interest have been already taken before -if implementation of 18th article or evaluation is practiced-will be represented and if 18th article of Development Plan numbered 3194 is practiced then the arrangement partnership interest will be completed up to the 40%.

It is ruled in this Law that the judgments of this Law are applied for the points which are not underlined in North Ankara Entrance Urban Regeneration Project Law numbered 5104 and dated 4/3/2004

ARTICLE 10- When the local conditions and current situations are considered in order to apply the Law administrative council is responsible for the purpose of legalizing the regulations.

ARTICLE 11- There are many problems about all manner of the occupations and procedures which are not completed according to this law by the related administrations occurred by 2981 numbered law and 2981 numbered law can not be practiced today. Therefore 2981 numbered law is legislated away.

TEMPOARARY ARTICLE 1- The rightful owners who appealed and had the right of the property in the regeneration areas according to 2981 numbered law, but who have not completed the process according to 2981 numbered law will be evaluated with this Law by giving an independent part. They will pay the land price to an administrative office who implements the project in accordance with this Law.

ARTICLE 12- is a validity article.

ARTICLE 13- is an executive article.

APPENDIX B

WORLD'S URBAN REGENERATION EXPERIENCE

There are three regeneration waves can be presented within the world in order to determine the history of the urban regeneration process according to centuries.

The first regeneration wave starts with 19th century after Industrial Revolution. According the World Bank Development Report (1999/2000) by 1844 the Industrial Revolution had transformed physical, environmental, economical and social conditions in the cities. Cities were pressurized by dense migration flow after the Revolution.

The second regeneration wave starts with 20th century after World War II. Rehabilitation and reconstruction of the CBDs'in the United States of America, England and some of the European countries after 2nd World War are the basic reasons for urban regeneration approaches (World Bank, 1999/2000)

The third regeneration wave has been started with the end of the 20thcentury and effects of this wave have been continuing in 21st century. New spatial solutions are discussed in this century with the great effects of globalization and localization (See figure 15)

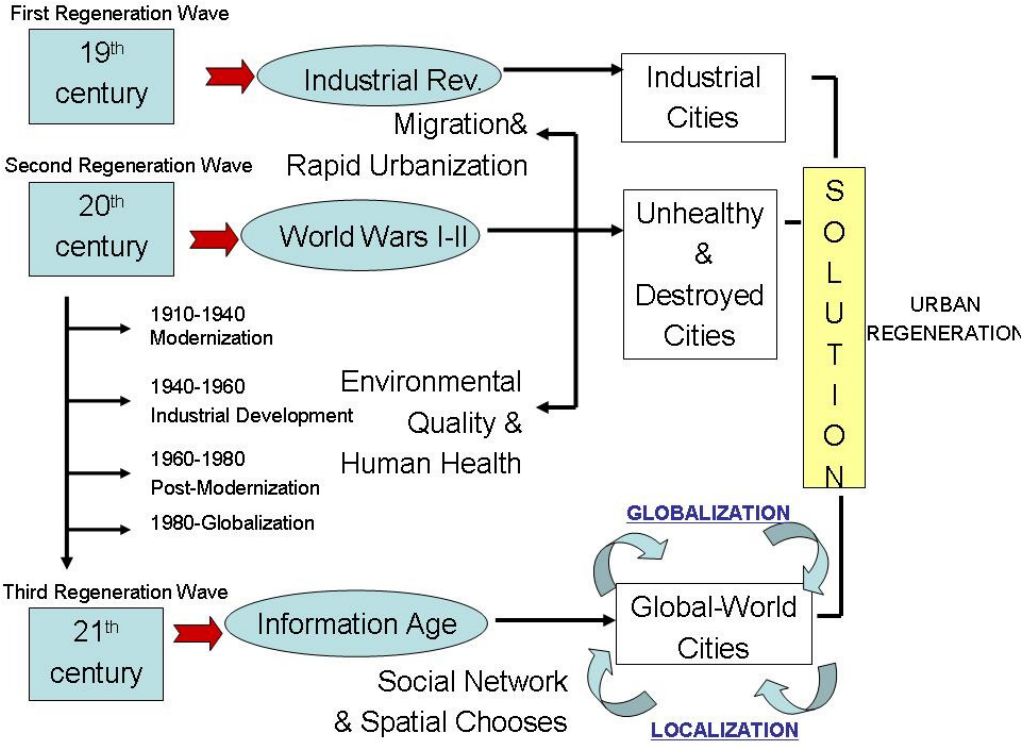

Figure 37 History of Urban Regeneration Process
(Source: This figure is derived from World Bank, 2000:142; Gürler, 2002:47-48, Pustu, 2006:145-146)

B1: First Wave of Urban Regeneration Process: 19th Century

Disharmony of internal (industrialization) and external (globalization) dynamics of urban developments caused different identities in the metropolitan cities. Urban life in the metropolitan areas has been changed by the economical, social and political changes within the world. As it is represented in Genç's Phd. Thesis (Genç, 2005:21), urban regeneration implementations have been shaped with the results of the social, cultural and economical transformations all over the world up to now. For instance, 'Industrial Revolution' had been changed the social life and started the transformation of cities with big population movements after French Revolution. With these great transformations spatial units had been regenerated, too. So, urban planning has to be evaluated with these changing dynamics. Urban planning, urban development, protection of urban building stocks, natural disasters and wars have been constituted the historical back round of urban regeneration process.
(See Figure 16)

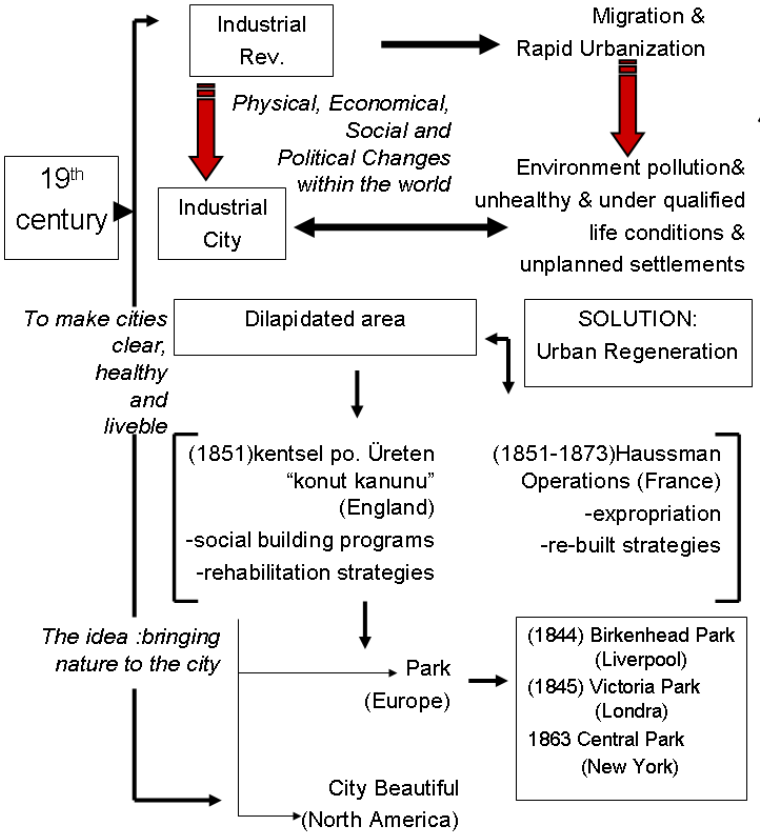

Figure 38 First Wave of Urban Regeneration Process
(Source: This schematization is synthesis of readings: LeGates and Frederic Stout, 1992; Gürler, 2002-2003)

Fishman (2003) describes the first part of the 19th century that new industrial cities based on stream-powered machinery sprang in Europe. Irregular construction of industrial areas, increasing environmental pollution, underqualified residential space and poor drainage systems made cities unhealthy after Industrial Revolution. Physical, environmental, economical and social problems affect the cities in this century. Then industrial city concept was appeared in the cities with unhealthy life conditions.

Most of the areas of the cities that are affected from the great transitions within the world can easily be qualified as 'debris areas'. Therefore, urban regeneration was inevitable in this century. Evolution of the cities had begun. There are two basic main ideas of 'public leadership models' in 19th century. According to her, one of these models for urban regeneration policies in England is Housing Act (1851) that generates urban policies. These

policies include social building programs, rehabilitation projects and urban renewal issues. Another model in order to utilize urban regeneration policies in France is Haussmann operations (1851-1873). Expropriation and re-built, re-construction principles of urban renewal strategies have been included in these operations.

According to LeGates and Stout (1998:299-313) public parks and enlargement of the cities was the basic matters of the problematic areas of the cities. With the aim of public sanitation huge boulevards were constructed within the cities as well as public parks. The pioneer steps of urban renewal project of Paris were implemented in 1850-1860 by Boron Haussmann. These were the solution ways for the purpose of reducing underqualified life conditions in the European cities.

B2: Second Wave of Urban Regeneration Process: 20th Century

Second wave of urban regeneration process at the 20th century can be determined according to Gürler (2002:49-52). She underlined four successful periods for 20th century. (See figure 28). These periods and their general characteristics will be analyzed in the following sections.

Period 1 (1910-1940) The Post-war Reconstruction of the cities after WWI and Industrialization: Modernization and Urban Renewal Approaches,

Period 2 (1940-1960) The Post-war Reconstruction of the cities after WW II and De-centralization: Industrial Development, Urban Reconstruction and Urban Rehabilitation Approaches,

Period 3 (1960-1980) The formation of World Cities and De-industrialization: Post-Modernism and Urban Renewal, Urban Improvement and Urban Revitalization Approaches,

Period 4 (1980 -) Global Restructuring of the cities: De-Industrialization, Urban Redevelopment and Urban Renaissance Approaches,

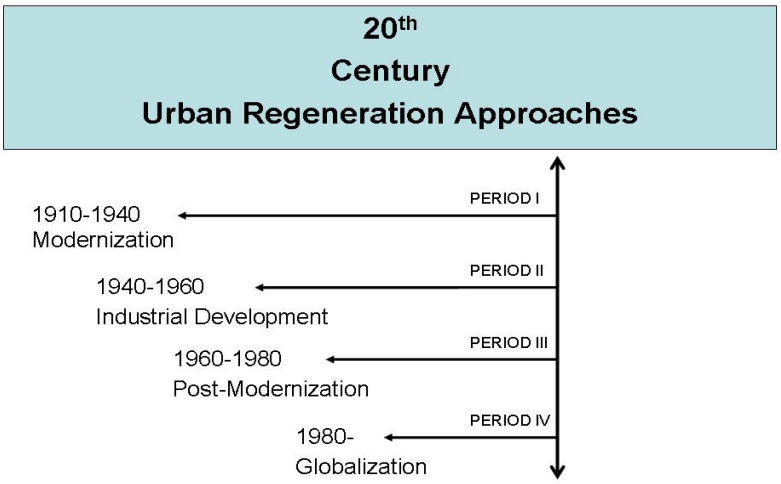

Figure 39 Second Wave of Urban Regeneration Process
(Source: This schematization is synthesis of reading: Gürler, 2002-2003.)

Period 1 (1910-1940) The Post-war Reconstruction of the cities after WWI and Industrialization (Modernization and Urban Renewal Approach)
The modern movement-oriented industrial development of cities after World War I (1914-18) and the existence of autonomous political economy produced urbanization of nation-states in the World. Urban regeneration issue has been the solution of the deprivation.

- ✓ 1910: the City-Beautiful idea-oriented urban renewal approach emphasized planning principles for mono-centric ideal cities. Squares, boulevards, open public spaces and green parks were the focal spaces of transformation in cities.
- ✓ 1920: the international modernist image-oriented urban renewal approach emphasized development programs for modernization.
- ✓ 1930: the CIAM historic heritage-oriented urban renewal approach emphasized planning principles for modem functional1y segregated cities. (Gürler,2002:50)
- ✓ (See Figure 18)

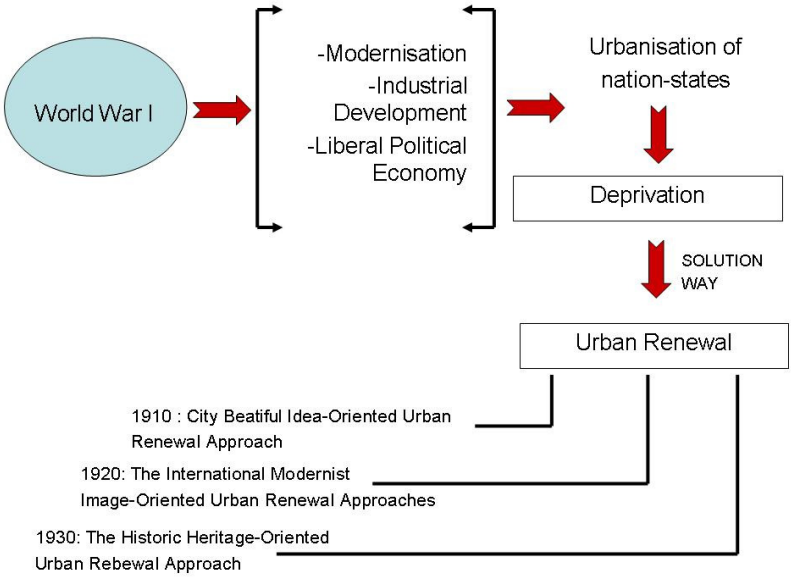

Figure 40 Urban Regeneration Approach between 1910–1940
(Source: This schematization is synthesis of readings Gürler, 2002:49-52, Özden, 2001, Yüksel, 2007:38-39)

Period 2 (1940-1960) The Post-war Reconstruction of the cities after WW II and De-centralization: Industrial Development and Urban Rehabilitation Approach (See Figure 19)

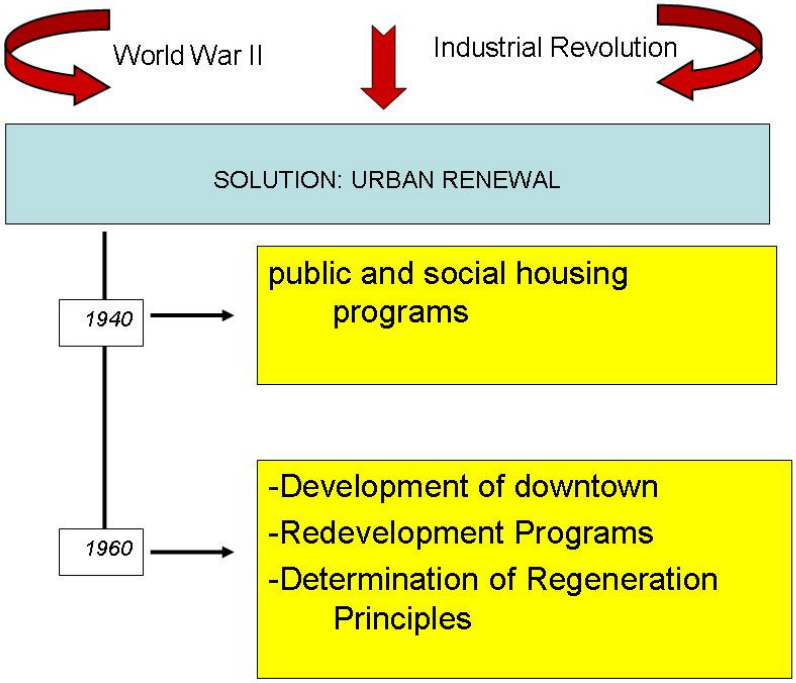

Figure 41 Urban Regeneration Approach Between 1940–1960

(Source: This schematization is synthesis of reading: Gürler, 2002:49-52, Gürler, 2003:115-116 after Yüksel, 2007:41)

Period 3 (1960-1980) The formation of The World Cities and De-industrialization: Post-Modernism and Urban Renewal and revitalization Approach

Fishman (2003:78) emphasized that central cities experienced a net out-migration, combined with an unprecedented deindustrialization, increasing poverty levels, and housing decay. These reasons also shaped the urban regeneration process for Period 3.

Subsequently, the strategies of historic preservation and urban conservation were based on the idea of remodeling architectural, natural and cultural environment. And, the methods were restoration and protection (Gürler, 2002: 61).(See Figure 20)

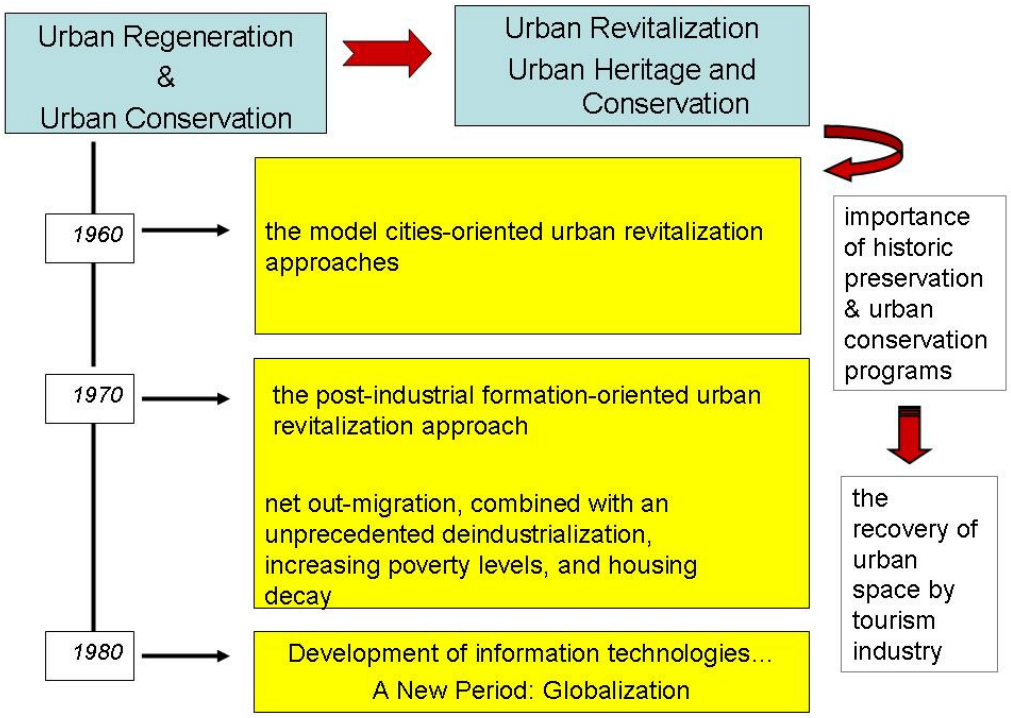

Figure 42 Urban Regeneration Approach Between 1960–1980
(Source: This schematization is synthesis of readings: Gürler, 2002:49-52, Gürler, 2003:115-116 after Yüksel, 2007:43)

Period 4 (1980 -) Global Restructuring of the cities: De-Industrialization and Urban Renaissance

Gürler (2002) describes the period 1980s that the redevelopment programs which were utilized for declined industrial (historic) inner-city areas in the world cities were emphasized with the post-industrial market-oriented urban renaissance approaches. These developments generated the mobilization of capital in the world. According to her, the restructuring programs were utilized for cultural historic inner-city areas in global cities were emphasized by the post-industrial rent-oriented urban renaissance approaches.

B3: Third Wave of Urban Regeneration Process: 21st Century

The third wave of urban regeneration process is integrated with the last part of 20th century. This period has been started with the development of information technologies since 1980s. Gürler (2002:70) described that in the 1980s, the post-industrial market-oriented urban renaissance approach became predominant. (See Figure 21)

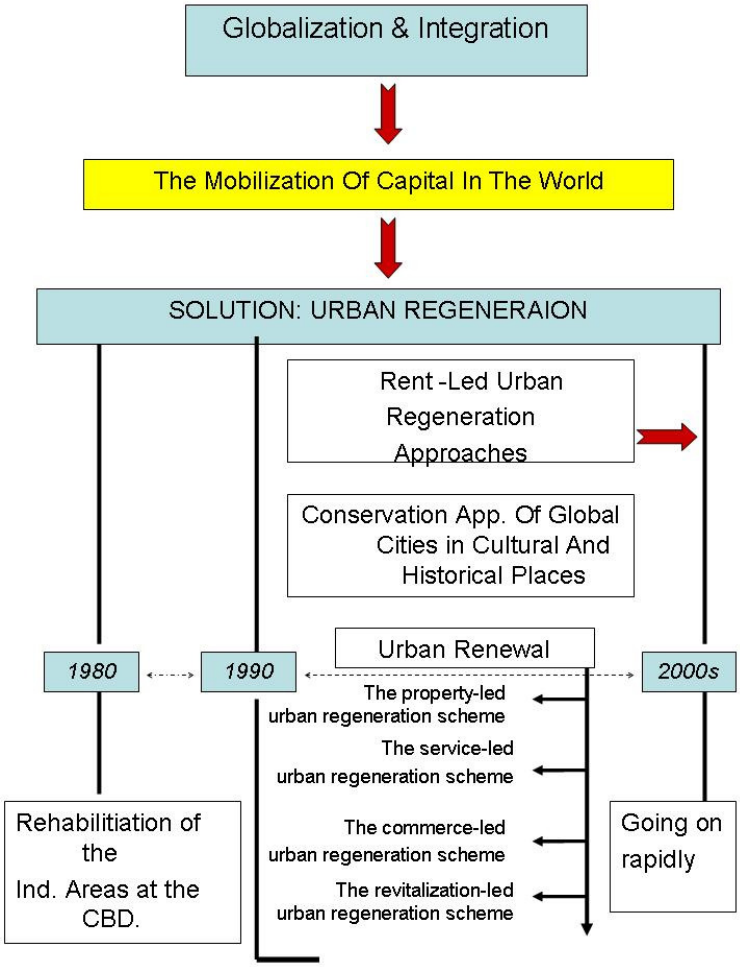

Figure 43 Third Regeneration Wave

(Source: This schematization is synthesis of reading: Gürler, 2002:49-52, Gürler, 2003:115-116 and Kayasü, Yaşar, 2003: 21-22 after Yüksel, 2007:45)

Cities are getting developped in order to compete with others in the global information economy. Thus, network of cities and computer technologies all effect the spatial transition. Since network of cities provides the sustainability of the regional and global market, the cities that are located at the interface of the serious communication networks have been the management and service 'brain' of the world.

Frederic Law Olmsted (2003:299) defines two regards. First, even though these cities have been long centers for business and finance, since the late 1970s there have been dramatic changes in the structure of the business and financial sectors. Second the ascendance of the new finance and services complex particularly international finance. According to Kayasü and Yaşar (2003:21-22) opinion, communication and transportation networks are the basic actors of the regeneration process for the complicated spatial fabrics of cities in this century. Since global cities are identified as the control and command centers of the world, spatial choices are shaped by this idea. This idea provided development of service sectors in cities. Wrong location decisions of cities that are inconsistent of physical and socio-economical structure have affected the cities negatively. These negative effects on developments generated the mobilization of capital, and then land speculation activities have been preferred instead of organized cities. Urban lands are got a place in dream of the window of global capital It is getting harder to protect our natural and cultural sources day by day. Urban regeneration is emphasized at that point.

Consequently, the decisions of investment locations are emphasized by the global capitalism. Therefore the major determinants of urban fabric which shape the built environment of cities, i.e.: residential areas, industrial areas, towers as a business areas and shopping centers are also effected by the global reorganization. Hence, urban regeneration is decision of the solution way for the 21st century with all effects of the globalization.

APPENDIX C

CHOSEN URBAN REGENERATION PROJECTS

C1: Regeneration in Weißeritz (LUDA Project)

In August 2002, Dresden became a disaster area because masses of water from the rivers Weißeritz and Elbe flooded territories of the city. The whole Weißeritz area, especially the Friedrichstadt was hardly affected, when the Weißeritz used its old riverbed (replaced in the 19th century) as a discharge again. Many thousand people along both rivers had to be evacuated and placed in emergency accommodations. The power of water destroyed streets, bridges, buildings and public spaces in few days causing a total loss of ca. 250 million Euro in Dresden (LUDA Project, 2006:12)

Figure 44 Loebtauer Straße during the flood.

(Source: LUDA Project, 2006:12)

Consequently the concepts and plans regarding flood protection became more important. The still existing uncertainty about the level of future flood protection in the Weißeritz area hindered private investment as well as the implementation of plans and projects. Nevertheless, different public and private actors already started to invest again setting a positive sign in the area (LUDA Project, 2006:12).

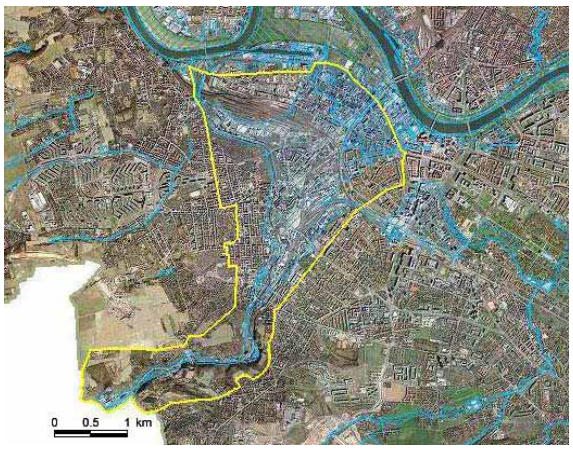

Figure 45 Flooded area in August 2002
(Source: LUDA Project, 2006:12)

The LUDA Weißeritz is located in the south west part of Dresden (Figure 38). The area reaches from the city border to the city centre. It is all around bordered by streets belonging to the main road system of the city. For defining the LUDA boundaries both objective criteria and subjective perception played a deciding role. Subjective criteria were related to the working experience and the perception of the planners. The objective criteria, based on statistical material were: (Source: LUDA Project, 2006:14).

- Number (level) of brown fields
- Amount of vacant flats
- Amount of vacant industrial facilities
- Population development and structure (ageing)
- Unemployed persons and persons receiving social welfare

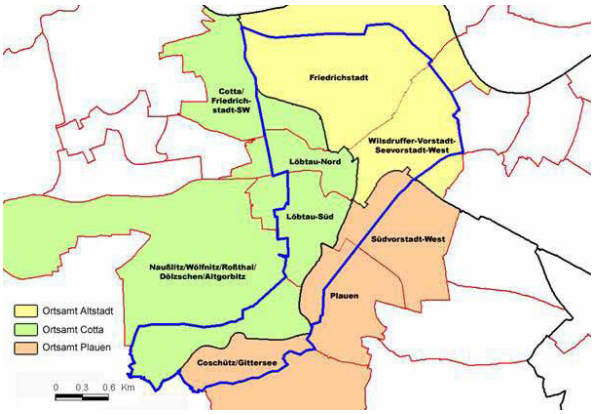

Figure 46 Political districts (Ortsämter) in LUDA Weißeritz

(Source: LUDA Project, 2006:7)

Aims of the Project

"The area has great potential because it connects the city centre with adjacent residential districts. It has access to major roads, trains and the local public transport system. The large amount of vacant land provides the opportunity to develop permanent and public open space. This will benefit the local residents; provide space for recreation and connections for pedestrians and cyclists. It also offers space for a future economic development. The river Weißeritz and its banks link different territories of the LUDA and have potential to provide accessible green open spaces and a feeling of nature. Existing remnants of urban fabric such as parks, squares, industrial monuments and historical sites will provide a focus for initial investment and Development" (LUDA Handbook E-2 Report 2006:24).

Now that financing for the clearance and repair of damage caused by the floods of 2002 has largely been assured, and flood protection measures are being implemented, the project provides a new impulse to the sustainable, long-term development of the housing areas and industrial sites along the Weisseritz River (Dresden, 2009) In order to revitalize the project area, several important objectives were pursued:

- Strengthening the appeal of Löbtau and Plauen as attractive residential areas by improving neighbourhood environments, complementing the building renovation work now being carried out
- Improving conditions for commercial activities, with a special focus on protecting existing jobs
- Upgrading the urban spaces and landscapes along the Weisseritz River by creating a linear park (the Grünzug) between the Plauensche Grund Valley and the city centre
- Improving access to commercial locations and providing housing areas with new connections to public transport

The project budget to 2008 was to have been 10 million Euros, 75% provided by the European Regional Development Fund (ERDF) and 25% by the City of Dresden. By April 2007, total financing had amounted to 18.5 million Euros(Dresden, 2009).

Functions Proposed by the Project

The LUDA project came into the regeneration process as a management and communication tool, defining projects in following working fields in LUDA Project Report (2006:33)

- To network between running regeneration programmes and their actions in the area
- To foster the consideration of all five dimensions of quality of life
- To involve of all internal and external stakeholders into the regeneration process
- To enhance the participation within the regeneration process
- To improve the identification of internal stakeholders with the regeneration area
- To improve the image of the regeneration area

The overall goal of the project is on the one hand to reduce the structural and functional deficits and on the other hand use existing potentials in the south western city part, the Weißeritz area. The implementation of the defined goals is planned within six fields of action in LUDA Project Report (2006:33)

1. Promotion of local economy and employment (defined as the key field)
2. Improvement of the urban structure
3. Improvement of technical and social infrastructure
4. Improvement in the environment and surroundings of residential areas
5. Promotion of socio-cultural actions
6. Cross-sectional task: Cooperative planning approaches, public awareness, increase participation

Organizational Structure

Five local associations were identified as important stakeholders in LUDA Weißeritz. The Bienert Förderverein Plauenscher Grund e.V. is located in south of LUDA Weißeritz and engages itself mainly with the unique landscape area close to the city border. The association was founded by property owners, and has today about 20 members including residents with monthly meetings. One of their objectives is to bring more people into the area for recreation through putting emphasis on the industrial history and the scenically impressive ambiance. Furthermore they are interested in a new use for different (including their own) facilities in the area and plead for a naturally flood protection for the River Weißeritz. Actually they work on a guideline for wanderers in the “Plauensche Grund” with 20 prominent stops like old mills or viewpoints (LUDA Project Report 2006:33).

The main stakeholders can be grouped in LUDA Project Report (2006:15)

- The City Council and local political decision makers
- Departments of the Dresden City Administration
- Superior authorities of the federal State of Saxony
- Local associations and non profit organizations
- Private enterprises-Property owners
- Residents

To facilitate and support participation and cooperation, new forms of involvement and interaction between the city administration, citizens and local interest groups have been developed and tested as underlined on the web (Dresden, 2009):

- Regular Local Initiative meetings at various changing locations in the project area - for presenting, discussing and agreeing on ideas, suggestions and initiatives.

- "Drop-in shops" for consultations and information about single measures and possibilities for support

Major activities of the organizational model determined in LUDA Project Report (2006:34-38) depends on
1. Workshop series
2. Guided walking tours
3. Stakeholders' round table
4. Cooperation with scientific institutions
- Possible impacts
- Lessons learnt/Experiences
5 Implementing
6 Priority action areas

Priority action areas in the LUDA Weißeritz are on the one hand the three historical residential areas Loebtau, Plauen and Friedrichstadt, as they were defined as areas of urban renewal and on the other hand the territory of the Weißeritz Project. An overlapping of both the Weißeritz Project and the renewal areas Loebtau and Plauen (after the enlargement) was planed to use synergies (Figure 39). All key projects regarding the revitalization of the LUDA Weißeritz are located in those areas (LUDA Project Report , 2006:34-38).

Within the Weißeritz Project a further separation in priority action areas (north, centre, and south) was undertaken. This zoning can be seen as a tool to address the different problems and potentials of every single area under consideration of different local frame conditions (LUDA Project, 2006:39).

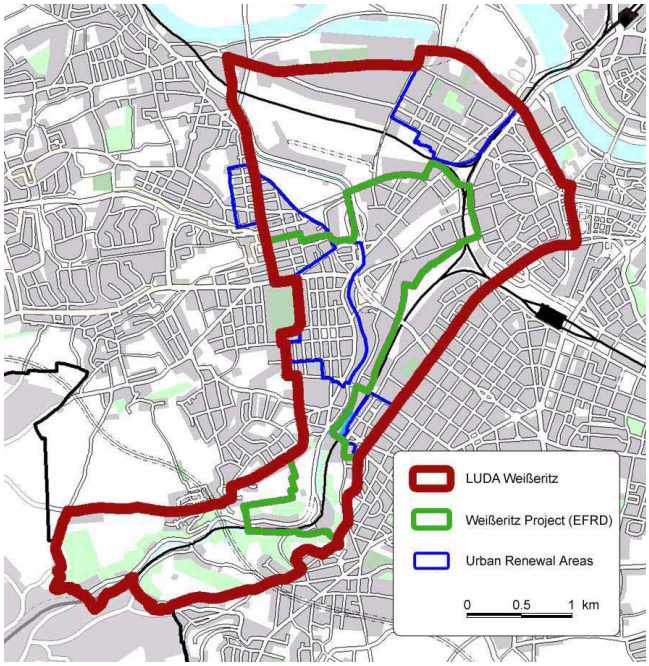

Figure 47Priority action areas in LUDA Weißeritz
(Source: LUDA Project, 2006:39)

All actions, planned in the frame of the LUDA Project (e.g. tours, workshop series and round table) were already implemented. It is planned to continue with these implemented actions after the official end of the research project in 2006.

According to the LUDA Project, (2006:39)In the frame of the Weißeritz project, small and medium enterprises were supported since 28 contracts for directly funding were concluded with a sum of about 900.000 Euro. All together 25 new jobs and 7 apprenticeship training positions were created.
7 Monitoring and evaluation.

C2: Urban Regeneration Project of North Ankara Entrance (Protocol Road Project)

Urban regeneration projects are common discussed after 1990's in Ankara. These projects have been effected physical and social conditions of urban locality. The differentiation in the city can be best observed with the Urban Regeneration Project of North Ankara Entrance which is the largest of its kind to be implemented both in Turkey and in Ankara. The regeneration are constitutes a total of 1396 hectares (Greater Municipality of Ankara, 2008). This project which is known as 'Protocol Road Project' is unique with a distinctive law numbered 5104 that determines the boundary of the regeneration project.

Project area is located in the north part of Ankara, and it is between the Ankara Esenboğa Airport and south part of the Ankara Motorway (Greater Municipality of Ankara, 2008). The area is in the boundary of Keçiören and Altındağ districts. Therefore the regeneration area is in the responsibility of three municipalities.[28] The project has been made up of two stages. First stage of this project which includes five sub-districts (Yeşilöz, Yeşiltepe, Şenyuva, Güzelyurt and Baraj Subdistricts) with the 324, 9 hectare regeneration area is in progress. (See Figure 25)

Urban regeneration project of North Ankara Entrance zone was used by lower income families in the early years of the Republic. They built shanties in the North Ankara Entrance. After the beginning of 1980's project area was full of with shanties because of the fact that exemption for residential improvements have triggered illegal constructions. These shanties were constructed at the election periods especially and 9000 illegal buildings had been constructed in the regeneration area up to now (Greater Municipality of Ankara, 2008).

[28] Keçiören Municipality, Altındağ Municipality and Greater Municipality of Ankara

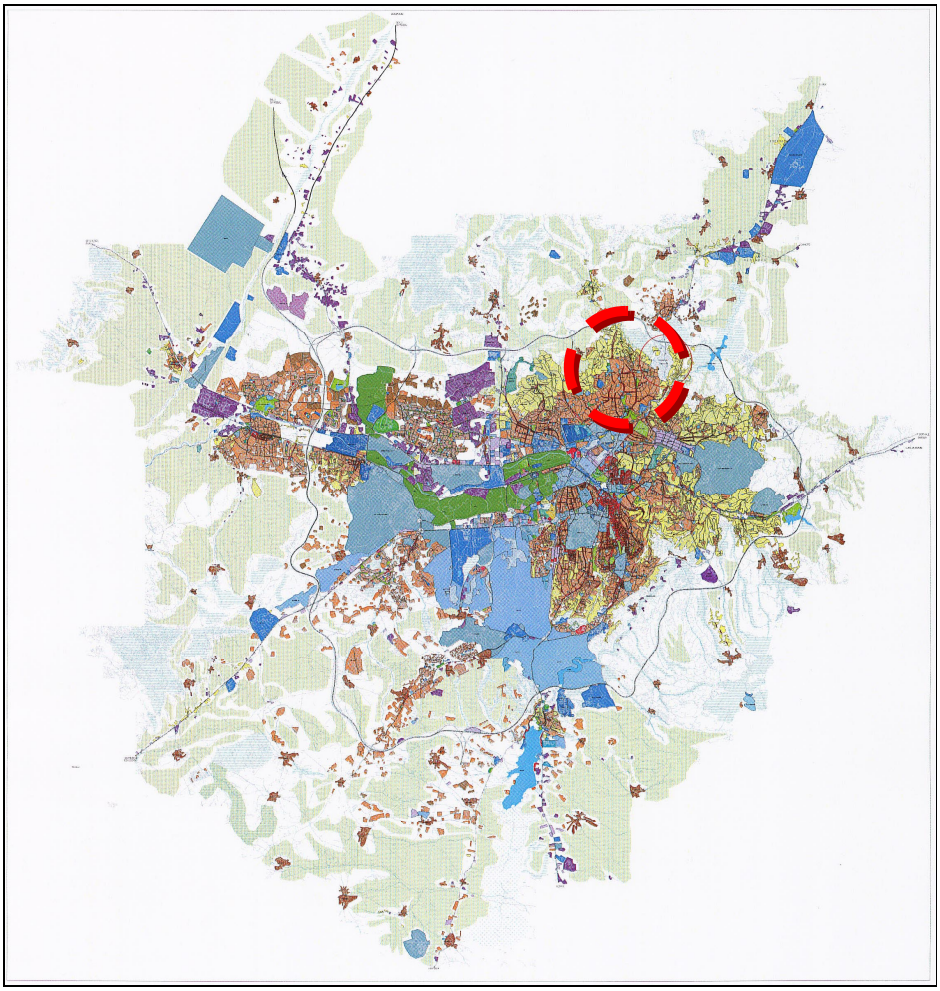

Figure 48 Location of the Urban Regeneration Project of North Ankara Entrance (Yüksel, 2007)

The Aim of the Project

The aim of the Project was determined in the Law which was put into effect on 04.03.2004 as following:

"Since there are a lot of illegal constructions in the area and the progress of the constructions that are best fit with significant urbanization principles have been developing slowly in the North entrance of Ankara, although improvement plans were made in the area, physical and environmental conditions will be developed and more healthier settlements will be formed in the North entrance of Ankara within the context of urban regeneration project."

Functions Proposed by the Project

Functions proposed by the project can be classified into six as housing, tourism, commerce and services, and social infrastructure, recreational and green areas. The operations within the framework of this project in the given time are (Gretaer Municipality, 2006):
1. 6921 unauthorized building in the boundary of Altındağ Municipality and 2521 unauthorized building in the boundary of Keçiören Municipality will be destroyed.
2. 650 000 square meters green area
3.180 000 square meters small lake,
4.five star hotels' and convention centers,
5.83 000 square meters recreational facilities will be planned in the regeneration zone.
6.Tunnels and viaducts will be planned
7.18 000 housing will be constructed, and 6760 of them are planned for rightful.

In addition to housing and social facilities, the main pattern of the urban regeneration project is to form social, cultural and recreational area on the protocol road. It is intended to create the image- oriented urban regeneration project as a prestigious and attractive symbol area on the Nort Ankara entrance.

Table 5 The Evaluation of the Area Before and After the Regeneration Project
(Source: Yüksel, 2007:99)

	Before Project	After Project	% change
Population	25 000	72 000	% 288 increasement
Population Density	There is approximately 63% population density at shanty area.	Undefined population density (free)	%290 increasement
Building Number	6000	18 000	%300 increasement
Building Density	There is no defined building density.	Undefined building density (free)	%300 increasement
Social Services	Illegal houses, educational and religious areas…	housing, tourism, commerce and services, and social infrastructure, recreational and green areas	--------

Organizational Structure

Balamir (2005:28–36) mentioned the urban regeneration approach of Greater Municipality of Ankara used in North Ankara Entrance. According to this model, all the immovable properties will be demolished and re-constructed urban areas will be shared in accordance with the plans prepared within the regeneration area. All the manner of the principles and the procedures of the regeneration project will be arranged according to a regulation composed by ministry. Residentially-zoned or not, legal or illegal status of the buildings and current area (in square meters) of the buildings are the criteria for the definition of the different development rights (Balamir, 2005:28-36). These criteria determine the progress payments that will be given to individuals who make an agreement with the Greater Municipality of Ankara. There is a payment program scattered in the time for the ownerships who requests for greater areas (Balamir, 2005:28-36). There are three kind of size classification for the housings in the project. All the rightful will be given in remuneration for the area which are residentially zoned (Gretar Municipality 2006). These classifications are as following: (See Table 3)

Table 6 The houses that will be given to the right owners in consideration of the residentially –unresidentially zoned areas
(Source: Gretar Municipality 2006-2007)

residentially zoned area	Un-residentially zoned area	Given house
For 200 square meters	For 333 square meters	80 square meters
For 250 square meters	For 416 square meters	100 square meters
For 300 square meters	For 500 square meters	120 square meters

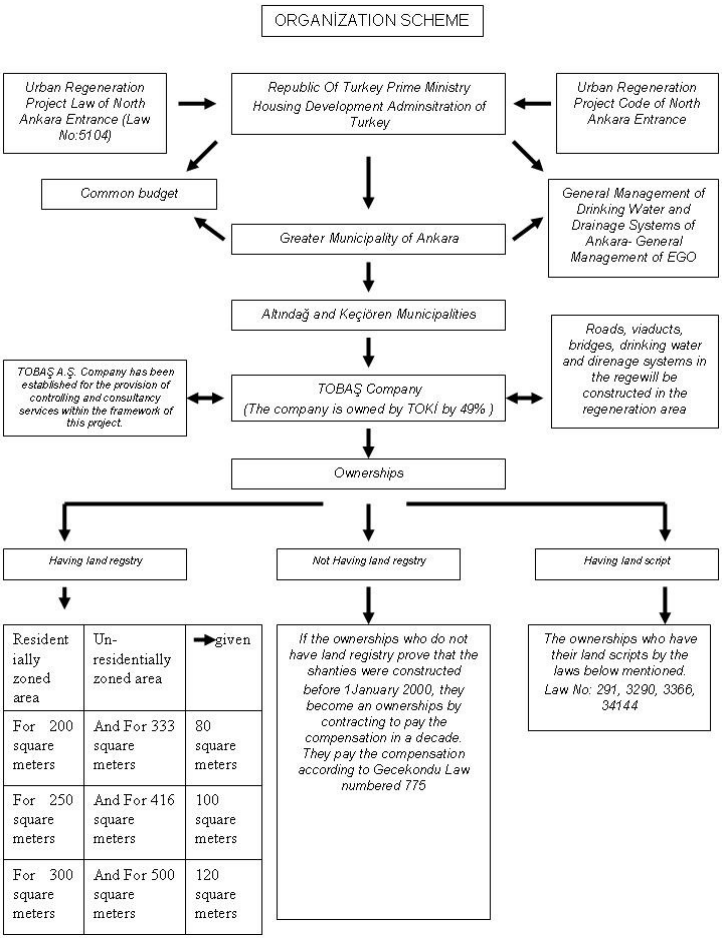

Figure 49 Organization Schema according to Urban Regeneration Project Law of North Ankara Entrance
(Source: This schematization is synthesis of Law Numbered 5104 after Yüksel, 2007:88)

Approximately 20 percent of the project has already been completed and it is thought to finish the project completely by the end of 2011. The project will cost a total of YTL 4.5 billion to YTL 5 billion. (Turkishdailynews, 2008.)

Figure 50 Constructed Buildings for Right owners

Source: Greater Municipality of Ankara, 2008)

The apartments are determined by drawing of lots between ownerships. The price of trees and 10 percentage of the price devoted to the unauthorized buildings will be declined from the price of the apartments. The price left behind will be made a sum due payable on the installment plan. Payment plan is determined as 15 years and the payable installment plan is determined as 180 months. Monthly payments vary in accordance with the price of the apartments which are determined by drawing of lots (Gretar Municipality 2007). It is carried out a project that should be deemed as a model for the world (Turkishdailynews, 2008).

Figure 51 Urban Regeneration Area before Project Implementation

(Source: Greater Municipality of Ankara, 2008)

Figure 52 6700 illegal houses were demolished before Project Implementation

(Source: Greater Municipality of Ankara, 2008)

Figure 53A Computer-Simulated Version of the Regeneration Area
(Source: Greater Municipality of Ankara, 2008)

It has already been understood from this urban regeneration project that, it is planned apart from other development plans and not integrated with the urban identity can not be thought to accomplish above aims.

C3: Dikmen Valley Development Project

The Project area is located between two densely populated housing areas, Dikmen and Ayrancı-Çankaya, in the south. The northern boundary of the area is defined by Tanyeli Street (Dündar, 1997: 127). The area stretches along the bottom of the Valley towards south for approximately 6 km and has a width of 300 meters on the average (Dündar, 1997: 127). Starting from the centre of the city, it reaches to Middle East Technical University Forest-Eymir Lake Green Area and the Diplomatic Site for Embassies on the south. The site constitutes a total of 158 hectares (Dündar, 1997: 127). (See Figure 29)

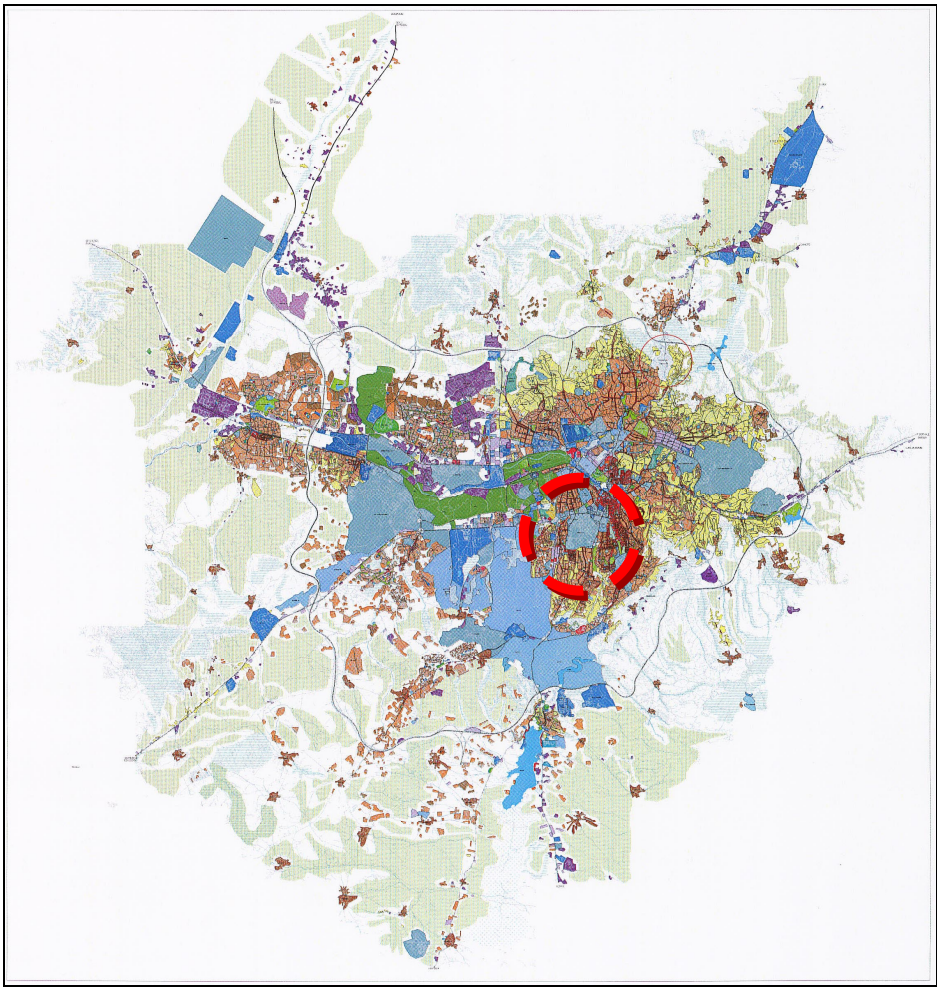

Figure 54 Location of the Dikmen Valley Project
(Yüksel, 2007)

This project was designed to be implemented in five phases.

- One is Dikmen Valley Housing and Environmental Development Project which 1/5000 and 1/1000 plans were approved by the Council decision number 290 in August 1990 (Dündar, 1997: 126).
- The second sub-project is Dikmen Valley II. Phase and Yıldız- Oran Axis Revision Regulation Area which was approved with the Council decision number 119 in April 1992 (Dündar, 1997: 127).
- The third sub-project is Atıf Bey Hıdırlıktepe Urban Regeneration and Development Project which was approved with the Council decision number 484 in February 2006. Plans were completed and construction began.
- (Greater Municipality of Ankara, 2008)
- The fourth and fifth sub-projects are handled together. Dikmen Valley Urban Regeneration and Development Project which was approved with the Council

decision number 215 in January 2005. Plans were completed urban design projects have not been completed yet. (Greater Municipality of Ankara, 2008).

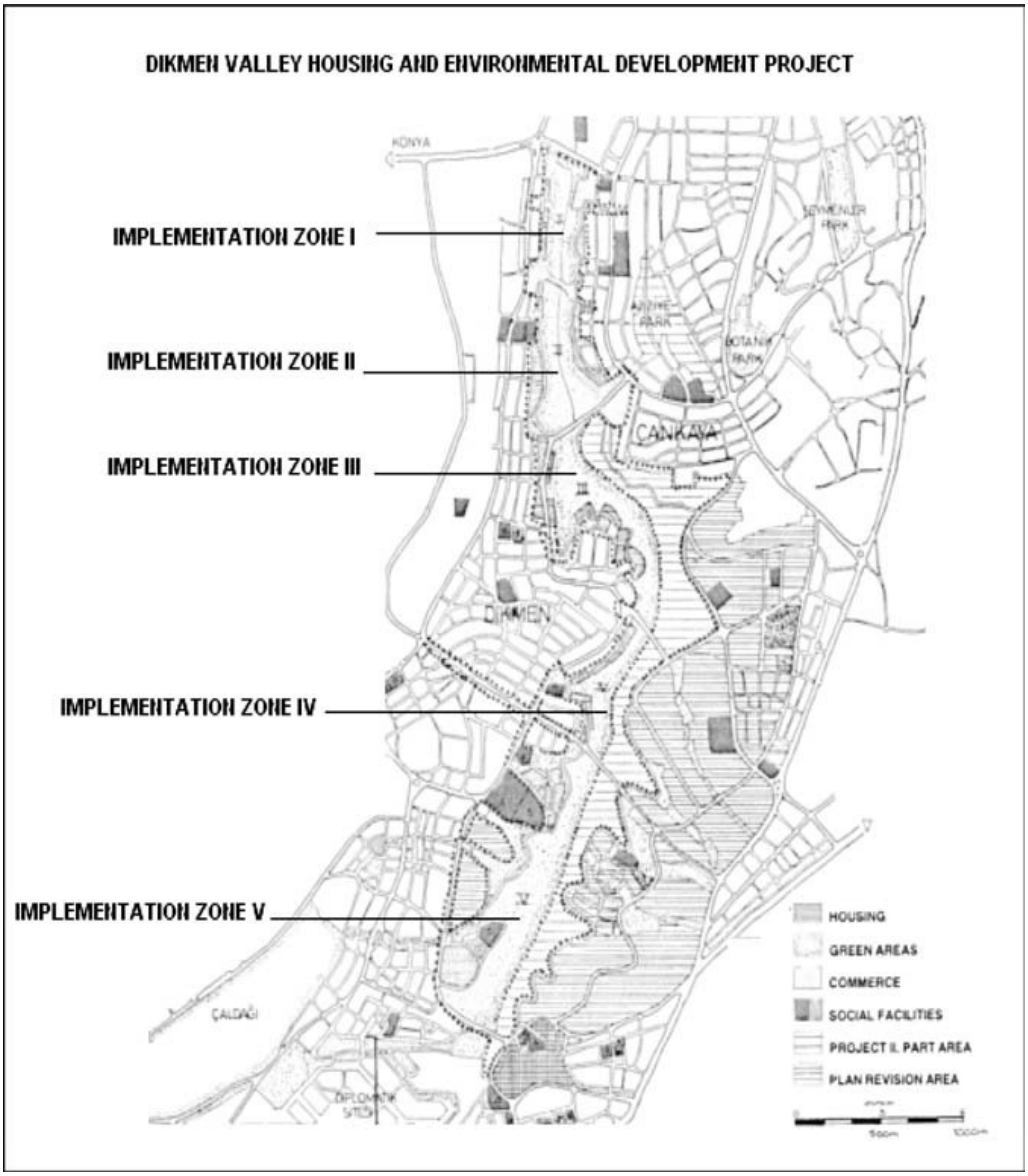

Figure 55 Dikmen Valley project implementation zones
(Source: Dündar 1997)

Two of the phases of this project have been completed already. The first phase started in 1989 following the approval of the DVP plan. In this phase, nearly 20% of the area was set aside as residential area. As the project started, the company representatives organized meetings with the squatters in order to reach a consensus about their rights and expropriation costs (Uzun, 2005: 6).

The Aim of the Project

The project aimed to ensure the valley to be used as a recreation area by providing a transformation in the valley, and to ensure it to be used and become a center of attraction by making commercial, cultural and social adjustments and to solve housing problems of shanty house owners on site by financing itself and by ensuring participation of local community, shanty house owners were settled in some part of residences constructed (Uzun, 2003).

Functions proposed by the Project

Functions proposed by the Dikmen Valley Housing and Environmental Development can be c1assified into four as housing, social infrastructure, culture park and municipal service areas. A1though the starting point of the project had been to create a green area in the Valley, this was also a resettlement project (Dündar, 1997. 135-136).

Company of developing project with shanty house owners satisfying beneficiary conditions in response to their immovable property was established instead of classical expropriation method in order to implement the project (Göksu, 2003). However, a project decision board composed of beneficiaries, reeves, city managers and company directors was created with the aim of taking all decision related with the project in a participatory way (Göksu, 2003).

Dündar (1997: 136) mentioned that about18000 people would be settled in the housing areas proposed by the Project. In addition to housing and social service facilities, the fundamental pattern of the Dikmen Valley Housing and Environmental Development Project was to form a social, cultural, entertainment and 5 km recreational corridor on the valley with 1 500 000 m^2 size within a basically green and open space. For that reason, Dündar (1997, 137) underlined the fact that the bottom of the valley was designated as the 'Culture park' and the new residential area was constructed upper sides of the valley in accordance with the Project concept. There were 37-storied housing towers, two in Dikmen side and two in the Hoşdere side making 219 luxury houses. (Dündar, 1997:137)

The first stage of the urban regeneration project was completed in 2000. 2 264 residences, 68 shops, 1 conference and exhibition hall, 2 swimming pools, 2 sports centers, 2 beauty halls, 11,2 ha green space, 1,8 ha pools, 3 km roads were constructed within the scope of the project (Ankara Metropolitan Municipality, Directorate of Utilities and Construction, 2006).

Second stage of the Dikmen Valley Project is composed of many social service facilities in addition to 600 residences. 280 000 m^2 area of the project containing 400 000 m^2 area was arranged as grass and plant area. 170 000 trees and plants were planted for landscaping. While construction of South park Urban Transformation project known as 902nd parcel among people was started within Dikmen Valley 3rd stage, contracts started to be signed

with beneficiaries to perform construction of 4th and 5th stages of Dikmen Valley which are last stages of the valley. It was stated that more than 8 thousand residences will constructed in the project area composed of 2 786 beneficiaries and on which construction works will be performed on 165 hectares (1 650 000 m^2) area upon start of construction works of Dikmen Valley 4th and 5th stages Urban Transformation and Development Project.

Nowadays third and fourth period of this project have almost been completed, but unlike the project that is first thought and planned. Consequently, the remaining phases of the project are in progress.

The Organizational Structure

At first, it was thought the project could generate its own finance with a public-private-citizen partnerships model in which a development corporation (Metropol A.Ş.) which had been formed under the Greater Municipality takes the role in coordinating the public and the private firms (Dündar, 1997: 139). However, the first stage of the project was funded by local government.

Model proposed for realization and finance of the project can be summarized as the following:
"enabling, contracting finance to undertake construction in a prestigious area and to finance the· project by sharing with them the rent thus' created as the landowner."(Dikmen Valley Housing and Environmental Development Project, Feasibility Report, 1991: 44

After 1990, two local governments -Ankara Metropolitan Municipality and Çankaya Municipality – have put into contradiction due to the debates experienced. Partial decisions of Çankaya Municipality during 1990's started to be implemented in the framework of the valley (Devecigil, 2005). The plan which is the base of this implementation put into incompatibility with the master plan offering its protection as green space. Metropolitan Municipality has prepared 13 plans by the approval of Çankaya Municipality during 1996-2002(Devecigil, 2005). Çankaya Municipality transferred all its rights about the plan regarding Dikmen Valley Project to Metropolitan Municipality in 2001(Devecigil, 2005:218)

Figure 56 The Apartment Buildings Built for 'Gecekondu' Owners before Project

(Source: Uzun, 2005)

Dündar (1997:194) determined the process of urban regeneration project in Dikmen Valley Project as an 'island' project. According to Dündar (1997:194) an ongoing exchange process and an increasing impetus of push factors corning from social dynamics, will force the occurrence of spatial transformations in the area. For that reason, if the area is intended to be re-planned without any consideration within the framework of the global criteria which also define the limits of a structure plan, the resultant spatial approach will not be so much different from Dikmen Valley Project. A construction firm will enter the area, demolish the buildings and build new ones without an environmental approach which will relate the housing blocks with the green character of the Valley .

C4: Earthquake-oriented Urban Regeneration Project of Sümer Sub-district (Zeytinburnu/İstanbul)

High earthquake risk which came to agenda both in Turkey and in Istanbul after 1999 earthquake is required to be made systematical studies about the preparation of İstanbul against natural disasters. The fundamental attempt mentioned in (EC, 2004: 5) about this topic is 'The Study on Disaster Prevention and Mitigation Basic Plan in Istanbul including Seismic Micro-zonation' which had been prepared by the participation of Japan International Cooperation Agency (JICA) and Greater Municipality of İstanbul (GMI). In order to find proper solutions for complex "risk mitigation" issues, the "Earthquake Master Plan for Istanbul (EMPI)" which can be used as a model for Turkey has been commissioned and by Istanbul Metropolitan Municipality (GMI) to a consortium involving four leading Turkish Universities (BÜ, YTÜ, İTÜ ve ODTÜ). Zeytinburnu which is one of the risky districts in Istanbul has been chosen as a pilot project area for the implementation of EMPI. (Ergenç, M.,and others, 2008)

Kahraman (2006: 98) underlined the fact that selection of Zeytinburnu as the pilot region for urban regeneration in Istanbul is not a coincidence. City vision concepts with mega urban regeneration projects were changed with Marmara Earthquake and have taken the form of preparation of Istanbul against an earthquake with urban regeneration projects. The risky building stock in Zeytinburnu has all the deficiencies that turn the expected earthquake into a devastating disaster. On the other hand, Zeytinburnu where is at the geometrical center of İstanbul, where has a dynamic economy represents Development potentials (Safe Cities, 2008). It has been learnt from the studies done in Zeytinburnu as followings (Safe Cities, 2008):

- Determining the local spatial potentials and properties of comprehensive regeneration is better than singular building strengthening in the comparison of the (dis)advantages of the projects.
- Revision of master plans and the various arrangements in the upper scale plans have proved the reality of economy of scale.
- It has been proved that modern; physically safe settlements can be built at high risk and high density residential areas even if the densities are increased by %12-15.
- All the rights of the owners and tenders have been protected in this urban regeneration model. It is possible to form a sustainable and democratic local society model in an urban regeneration project.

- It has been proved that urban regeneration is the most economically attractive suggestion for the right owners.

Kahraman (2006: 98) stated that Illegal settlement in Zeytinburnu is not a so new fact. Looking from this perspective Zeytinburnu has already met with first illegal constructions at 17th. First manufacture production has selected its place here with the first production structuring in Istanbul and first illegal settlements have occurred in this area with construction of first industrial zone of the city.

Balamir (2005:28-36) underlined little ways, narrow streets, small block of houses and parcels, high density of FAR, disharmony of terraced houses in Zeytinburnu where, has been had the first shanty area with small scale industry in Turkey. For that reasons, Zeytinburnu has been one of the biggest risk pools in İstanbul in terms of the physical conditions that are observed against earthquake hazards. In his study, he underlined the fact that being in the building and being outside are same in terms of the possible loss in human lives. Thus, Zeytinburnu should be required to be renewed comprehensively instead of renewing individual buildings. These unplanned neighborhoods including single storey buildings have been replaced by higher density apartments, through the 'share of construction'

Most of the immovable properties had become illegal with improvement plans. Therefore unknown risk of floor weight capacity of the buildings which had been built without any engineering consultancy will invalidate a suggestion of retrofitment implementations in Zeytinburnu (Balamir, 2005:28-36). For that reason, urban regeneration approach should be utilized by determining acceptable construction conditions instead of detailed engineering survey of individual buildings in Zeytinburnu district. İstanbul which become a giant construction yard by urban regeneration projects will be more livable city.

In addition, urban regeneration methods should be improved because of social and economical problems in Zeytinburnu. Not only physical conditions will be developed, but also variation of employment and development of household income levels, recycle of sectoral and economical developments, increase in life conditions, local development and social improvement will be improved by urban regeneration.

15 percent of the buildings in Zeytinburnu are more risky than other districts in İstanbul. Sümer Sub-district has been the more risky region with 25 percent earthquake risk in Zeytinburnu than others (Zeytinburnu, 2008). All the urban regeneration projects both in Zeytinburnu and in İstanbul wait for 'Urban Regeneration Draft'. (This draft and critics Related with this draft will be mentioned in the following sections.)

The Aim of the Project

Zeytinburnu is accepted to be the region where can be easily effected by possible anticipated major earthquake because of deficiency of the current building stock in Sümer Subdistrict. For that reason the aim of the project can be determined as the prevention and protection of the individuals against risks. This approach is based on earthquake oriented risk reduction model which focuses on the mitigation, urban risk reduction and construction of safe settlements against earthquake (See section 2.2.2). According to Balamir (2005:28-

36) the fundamental determinative characteristic of this approach is encouragement of establishment of partnerships and local administrations play catalyze role in this participation.

Sümer Subdistrict which is the well-known settlements of Zeytinburnu will be restructured and a new sub-center of İstanbul will be created by urban regeneration project. People who live in this risky area will have the chance of being in safer buildings instead of being in more risky buildings (Kiptaş, 2008).
Balamir (2005:28-36) mentioned the consideration of the basic aims which are determined in this urban regeneration model can be summarized as followings:

- It is considered to stay Ownerships and tenders on their own places.
- It is considered to make long term borrowing attractive.
- It will be encouraged to create participations in order to increase public awareness against earthquake.
- all ownerships will become a shareholder by founding horizontal and vertical participations
- Comprehensive urban regeneration model will be implemented.
- It is considered to create repeatability model with its financial, organizational and legal sanctions in order to be used in other projects.

Functions proposed by the Project

Total planning area has been determined as 54 415 square meters in Sümer Urban Regeneration Project. 1038 houses will be demolished and 1536 houses will be constructed on the 167 thousand square meters construction area. (CEAT, 2008)

Functions proposed by the project can be classified as the following:
1. There will be 292 units of 1+1, 790 units of 2+1 flats, 432 units of 3+1 and 22 units of 5+1 options.
2. A shopping center with a size of 100 thousand square meters and 212 shops will be constructed in the project

Figure 57 A Computer-Simulated Version of the Regeneration Area

The Organizational Structure

The organizational model of this a public-private-citizen partnerships model in which a development corporation (KİPTAŞ) which had been formed under the Greater Municipality of İstanbul (GMI) takes the role in coordinating the public and the private firms. Principle of equivalence will be valid in this regeneration project. A price will be given to a construction in the ratio of its value. 75 square meters flat will be given in consideration of 100 square meters flat. Shops will also be distributed to beneficiaries with the same equivalence basis. People will be able to own such a larger flat by paying the difference in price. First stage of the urban regeneration project will be completed in 24 months and the whole in four years. 450 million TRY will be spent for total finance of the project. (Viphaber, 2008)

'Home to Home Transition Model' will be implemented in this urban regeneration project. Therefore, people have been living at the same area during the construction period (Greater Municipality of Istanbul, 2008). Construction operations are not obtained in consideration of flat, but all of them (Construction, producer profit, rental aid etc.) are gathered by a borrowing program in this approach (Balamir, 2005:28–36). In addition, his approach aims to protect current population including tenders. It is successfully illustrated in Zeytinburnu that giving 15 percent of development right can be possible in high density area by physical regeneration.

Göksu (2004) underlined that a national strategic plan, institutional structure, legal framework and a fund should be required for the purpose of urban regeneration implementation. There should be formed an institutional and non-institutional foundations in the content of the strategical plans which will be prepared at İstanbul, Zeytinburnu and neighbourhood levels in order to implement Zeytinburnu Pilot Project (ZPP)

The requirement of urban regeneration in Zeytinburnu scale caused to form a 'dual structure' in order to implement urban regeneration not only in the physical aspects but also social and economical aspects (Göksu, 2004). This dual structure which can be formed as an institutional or non-institutional organization can be schematized with a flexible and participant approach as following: (See Figure 31)

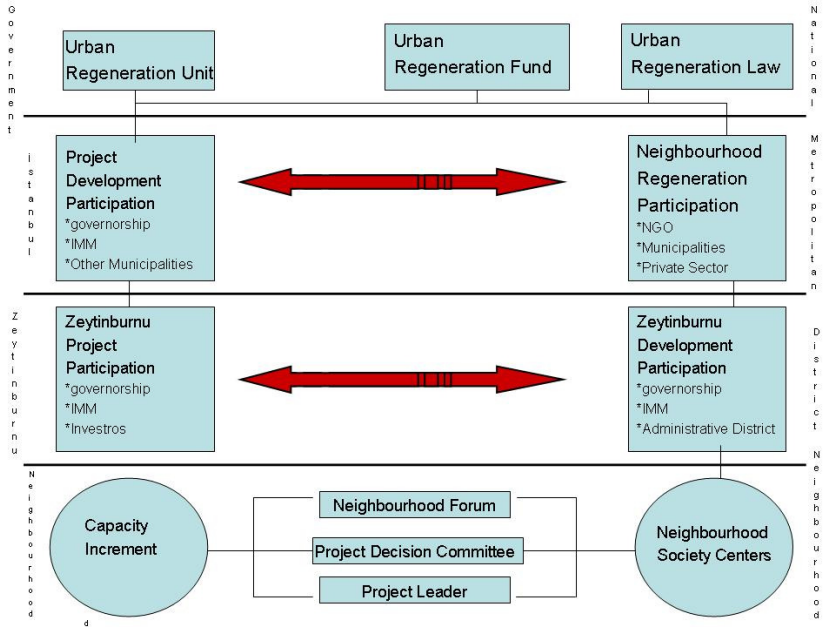

Figure 58 Institutional Structure
(Source: Göksu, 2004)

ZPP (Zeytinburnu Project Participation) which is constituted by a public and private partnership focus on project investments, project developments, coordination of projects, projects finance and ZDP (Zeytinburnu Development Project) which is constituted in a neighbourhood scale focus on social disparity reduction, encouragement of economical development and active participation in society (Göksu, 2004).(See Figure 32)

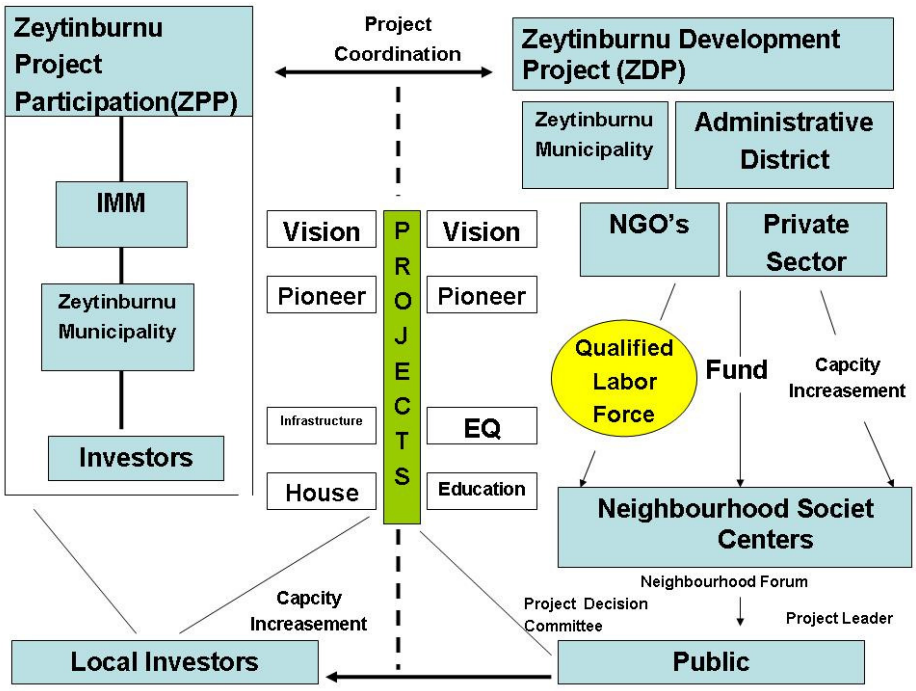

Figure 59 Zeytinburnu Partnership Model and Participation
(Source: Göksu, 2004)

ZPP (Zeytinburnu Project Participation) plays an effective role (Göksu, 2004) as follows:

- Coordination of projects which are evaluated in terms of Zeytinburnu Project Participation
- Coordination of international and national investors
- Identification of project and investment priorities
- Capacity increasement of local investors
- Development of project concept
- Development of participation and finance model

ZDP (Zeytinburnu Development Project) aims(Göksu, 2004);

- Foundation of applicable and sustainable local platform within the context of ZDP,
- Foundation of public participation in order to take the public support for projects,
- Development of qualifications and skills for public as labor force

Below mentioned structure should be determined for democratic and active participation(Göksu, 2004) (See Figure 33)

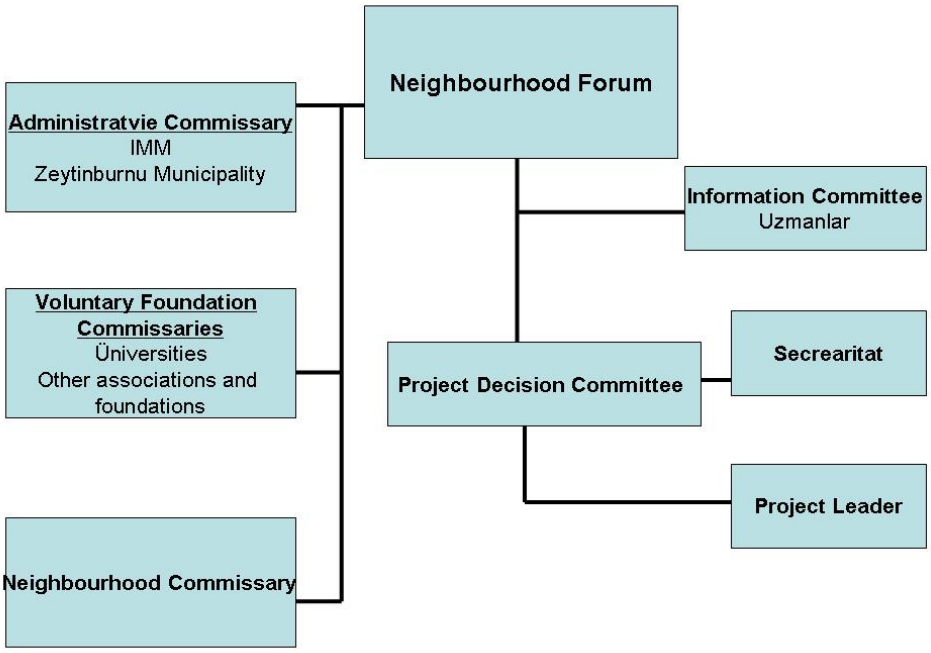

Figure 60 Neighbourhood Organization
(Source: Göksu, 2004)

Appendix C5: Kartal – Küçükçekmece Urban Regeneration Projects

Istanbul is one of the fastest growing cities of the world. There are very dynamic and one by one mega projects are planned within this historical and risky city. Metropolitan Planning and Urban Design Center of GMI plans urban regeneration projects at the strategically focus points of Istanbul for the purpose of making Istanbul take place between the world metropolitan areas and increasing life quality in urban fabrics. In addition, GMI encourages the project of "Urban Regeneration Planning and Local Action Plan orientating Urban Regeneration, Rehabilitation within the context of Providing Safety against Earthquake in Küçükçekmece". It is aimed to provide an international vision urban regeneration and urban design projects in the fundamental focus points of Istanbul (Kartal and Küçükçekmece). These two of vision projects which were prepared by famous architects including plans of central business districts in Kartal Industry Zone and plans of Recreational Area in Küçükçekmece Seaside were selected by Metropolitan Planning and Urban Design Center of GMI. (Arkitera, 2008). These projects which aim in order to pull national and international investments are used as a catalyst in the market.

Kartal-Pendik Urban regeneration Project

The regeneration area lies at the confluence of several important infrastructural links, including the major highway connecting Istanbul to Europe and Asia, the coastal highway, sea bus terminals, and heavy and light rail links to the greater metropolitan area (Arcspace, 2008).

Figure 61 A Computer-based design of Kartal-Pendik
(Source: Arcspace, 2008)

The Aim of the Project

It is aimed to create a sub-center with The Kartal – Pendik Master Plan which is a winning competition proposal including qualified labor force with Kartal Urban Regeneration Project which is designed for 4,5 billion population in 555 hectares area (Arkitera, 2008). Kartal-Pendik Urban regeneration Project aims to obviate the interregional disequilibrium and decrease the disparities of life conditions by determining policies about trade, industry, culture, administration, housing and regeneration areas of between the European and Asian side of Istanbul. Central business district area is focused at the west part of Istanbul. The Bosphorus and historical environments of Istanbul are under impression because of dense construction and population. For that reason, Kartal-Pendik Urban regeneration Project is a strategical opportunity in order to create sub-centers at the east part of Istanbul. (Arkitera, 2008)

Functions proposed by the Project

An abandoned industrial site into a new sub-centre of Istanbul will be developed with a central business district, high-end residential development, cultural facilities such as concert halls, museums, and theatres, and leisure programs including a marina and tourist hotels (Arcspace, 2008).

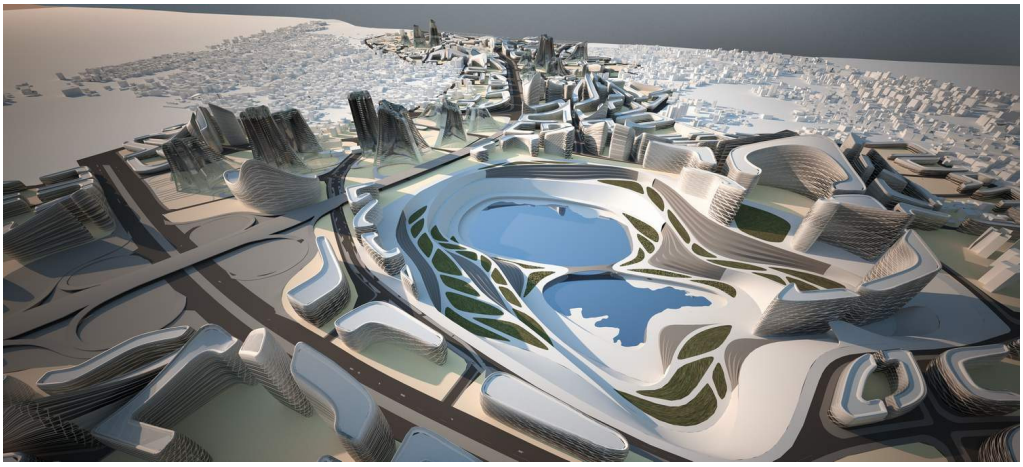

Figure 62 A Computer-based design of Kartal-Pendik
(Source: Skyscrapercity, 2008)

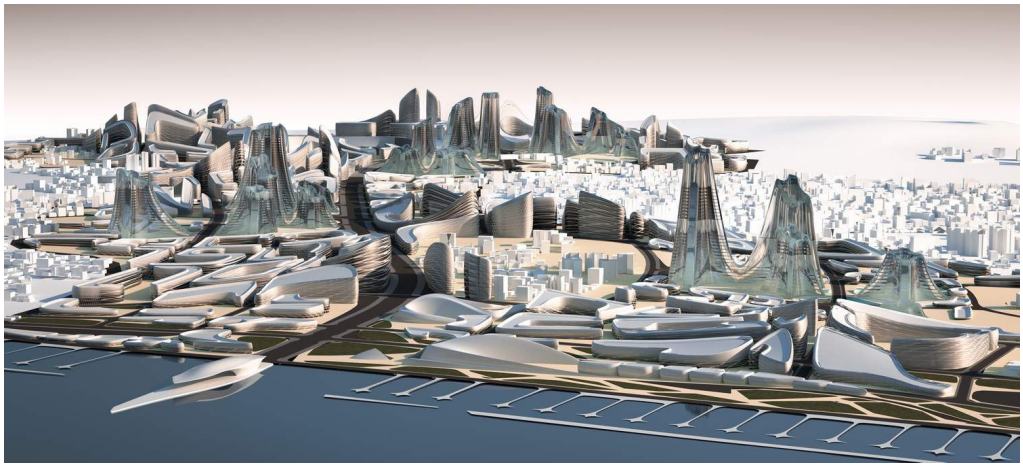

Figure 63 A Computer-based design of Kartal-Pendik
(Source: Skyscrapercity, 2008)

There are lateral lines stitches together the major road connections emerging from Kartal in the west and Pendik in the east. The integration of these lateral connections with the main longitudinal axis creates a soft grid that forms the underlying framework for the project.
According to this winning competition project, in certain areas the net rises up to form a network of towers in an open landscape, while in other areas it is inverted to become a denser fabric cut through by streets, and at other times may completely fade away to generate parks and open spaces (Arcspace, 2008).

The fabric is further articulated by an urban script that generates different typologies of buildings that respond to the different demands of each district. This calligraphic script creates open conditions that can transform from detached buildings to perimeter blocks, and ultimately into hybrid systems that can create a porous, interconnected network of open spaces that meanders throughout the city. This kind of design criteria lets regeneration and gradations provide smoothness from one part of the site to the other, the scripted fabric can create a smooth transition from the surrounding context to the new, higher density development on the site (Arcspace, 2008).

New architectural network which focuses on geometrical shapes is created for Kartal-Pendik. In this urban regeneration project, the soft grid also incorporates possibilities of growth, as in the case where a network of high-rise towers might emerge from an area that was previously allocated to low-rise fabric buildings or faded into open park space (Arcspace, 2008). For that reason, this urban regeneration project is a dynamic system generating an adaptable framework for urban form, balancing the need for a recognizable image and a new environment with a sensitive integration of the new city with the existing surrounds.

Figure 64 A Satellite image of Pendik
(Source: Google Earth, 2008)

Pendik which is one of the districts of eastern part of Istanbul comes on agenda with new urban regeneration projects the after Sabiha Gökçen Airport and Formula 1 Istanbul Park. A new convention center will be built at the north part of Pendik and, a marina will be constructed at the South part of Pendik (Arkitera, 2008). This marina will be the third marina of Istanbul after Ataköy and Kalamış-Fenerbahçe Marinas. After the construction of Via/Port, this convention center will be third one of Istanbul and first one located in Anatolian side (Arkitera, 2008).

'Build-operate-transfer model' will be used for convention center. Construction company pay the rent to Pendik Municipality and it will be transferred after 30 years (Arkitera, 2008). This convention center (Via/Port) which is predicted to cost 60 billion dollars includes a hotel with 600 beds, convention center, car parking lots, restaurants and outlet Centers (Arkitera, 2008).

Figure 65 A Computer- Based Design of Convention center in Pendik

(Source: Arkitera, 2008).

A 700 yacht limited capacity marina which will be constructed in 136.300 square meters area with 'built-operate-transfer model' costs 50 billion dollars (Arkitera, 2008). It is located 3 km far away from Aydınlı Marina, 25 km far away from the Bosphorus, 6 km far away from Tuzla Naval Docks, 20 km far away from Gebze Industry Region, 22 km far away from Haydarpaşa Port, 8,5 km far away from Kurtköy Airport (Arkitera, 2008)

The Organizational Structure

It is underlined that ownerships rights are reserved in Kartal where will become a sub-center with a population of 750 000 inhabitants.
It is underlined that transparency and participatory approach are the fundamental points in that regeneration project (Arkitera, 2008). A public-citizen partnerships model had been formed in November 2006 by the ownerships (Istanbul-Kartal Urban Development Association) under the Greater Municipality. This association will take role in financial coordinate of the public and the private firms.

Küçükçekmece Urban Regeneration Project

Küçükçekmece Urban Regeneration Project is another urban regeneration project in Istanbul in order to solve the problematic settlements of shanty areas in Küçükçekmece (Mimarizm, 2008).

Properties of the project can be summarized as following (Greater Municipality of Istanbul, 2008):

- dominance of the priority for the usage of 'green theme'
- organizing the ecological relationships of the coastal zone
- locational choice of marina
- priority of public usage and better combination of these functions,
- best organized transportation system,
- integration of landscape planning and architecture,
- sensibility of bio system and micro-ecology of the area,
- development of synergistic relationships between land - current and new items as planning methods

The Aim of the Project

This urban regeneration projects aims to give a global message and form similar processes with other metropolitan settlements by improving natural areas (Arkitera, 2008).

It is intended to crate a new touristic center on the west side of Istanbul with Küçükçekmece Urban Regeneration Project which is a winning competition proposal. It is aimed to create a sub-touristic center with this Regeneration Project which is designed in 125 hectares area with the participation of Housing Development Administration of Turkey and Istanbul Metropolitan Municipality (Arkitera, .2008).

Functions proposed by the Project

This urban regeneration projects aims to create a city which do not give damage to ecology by providing equilibrium between city and ecology. Traffic is ignored in this model. Transportation scheme focuses on pedestrian transitions and road network will be camouflaged (Arkitera, 2008).

Convention center, recreational areas, green areas, parks, car parking lots, marina and 7 star hotel, aqua park and dolfinarium will be constructed within the goals of the Project in Küçükçekmece (Arkitera, 2008). If every stage of the urban regeneration project is implemented, a satellite city with a population of 750 000 inhabitants would be built (Mimarizm, 2008).

Figure 66 A Computer-Based Proposal Plans of Recreational Area in Küçükçekmece Seaside Designed by Ken Yeang

(Source: Arkitera, 2008)

This Project will be a fundamental hope for the purpose of reducing earthquake risks. Totally 120 000 buildings will be constructed which are better places to live against earthquake risk. 500 000 inhabitants will be live in this safe city which is planned in accordance with the earthquake resistant planning criteria's. Almost 1300 household have been transferred to social buildings in Bezirganbahçe in two years (Arkitera, 2008).

The Organizational Structure

A public-private-citizen partnerships model can be founded which will be formed under the Greater Municipality in order to take role in financial coordination of the public and the private firms. It is intended to form a partnership model for the actors in every stage of the projects (design, implementation, buy and sell processes of immovable properties, financial organization and project management). The proposed project management issue has flexible financial alternatives guiding urban development (Arkitera, 2008). Payment plan is determined as 180 month and 220 NTL will be paid per month (Mimarizm, 2008).

APPENDIX D

EVALUATION SHEET OF 'ARTI PROJE' FOR RETROFITTING INDIVIDUAL BUILDINGS

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

MALZEME LİSTESİ 1/2

1 - Dış Cephe Kaplamaları

Sıvasız Brüt Beton

Boyalar, Sıvalar : Akrilik Boya, Kireç Boya, Tekstürlü/Desenli Sıva

Kaplamalar : Taşonit, Betopan, Mozaik, Granit, Yalıbaskı / PVC

Giydirme Cephe : Camlı (Isı, Temper, Polikarbon), Silikon

Sandviç Panel : Betonarme, Taşyünü Dolgulu, Poliüretan Dolgulu

2 - Çatı Kaplamaları

Kaplama : Kiremit, Aluminyum, Sac (Sade, Fırın Boyalı, Kenetli), Bakır Döşeme, Ondüle, Eternit, Shingle

Sandviç Panel : Betonarme, Taşyünü Dolgulu, Poliüretan Dolgulu

Aluminyum Işıklık : Aluminyum / Demir Profil + Cam (Isı, Temper, Polikarbon)

3 - Duvar Kaplamaları / Malzemeleri

Sıvasız Brüt Beton, Alçıpan, Gazbeton, Harman Tuğlası, Delikli Tuğla, Kompakt Laminat

Boyalar, Sıvalar : Plastik Boya, Saten Boya, Yağlı Boya, Kireç Boya, Silikonlu Boya/Sıva

Kaplama : Ahşap Lambri, Duvar Kağıdı, Kumaş, Akustik Kaplama, Kurşun, Seramik, Granit, Fayans

4 - Tavan Kaplamaları

Sıvasız Brüt Beton, Alçıpan

Boyalar, Sıvalar : Plastik Boya, Saten Boya, Yağlı Boya, Kireç Boya, Silikonlu Boya/Sıva, Fasarit, Alçı Sıva

Kaplama : Kumaş, Akustik Kaplama, Kurşun, Seramik, Granit, Fayans, Cam Mozaik

Asma Tavan : Metal Asma Tavan (Perfore, Düz, Lambri), Alçıpan, Alçıpan-Taşyünü, Akustik

5 - Kapılar (Camlı / Camsız)

Çelik, Demir Doğrama (İzolasyonlu, İzolasyonsuz), Ahşap, PVC, Aluminyum (İzolasyonlu, İzolasyonsuz), Seksiyonel (Garaj-Motorlu/suz, Sanayii Tipli), Demir Parmaklık

Camlı : Düz, Isı, Temper, Polikarbon, Kompakt Laminat

6 - Kasalar ve Doğramalar

Sac, Panel, Laminat, Lamine, Ahşap (masif), PVC, Aluminyum, Kutu Profil

7 - Kanatlar

PVC, Aluminyum (İzolasyonlu, İzolasyonsuz), Sac, Ahşap Pres Kapı (Sunta Üzeri Kontrplak Pres), Panel Kapı (Petek Dolgu Üzeri Panel Yapıştırma), Laminat Kapı (MDF Üzeri laminat Kaplama), Lamine Kapı (MDF Üzeri Ahşap Kaplama), Demir Parmaklık / Korkuluk, Kompakt Laminat

8 - Cam (Tek, Çift)

Düz, Isı, Temper, Filmli, Renkli, Donatılı, Lamine

ARTI Mimarlık Mühendislik Müşavirlik Ltd. Şti.

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

7.0 ELEKTRİK/ELEKTRONİK ve MEKANİK DONATI BİLGİLERİ - DEVAMI

Yangından Korunma :	Yangın İhbar Düğmesi	☐ Var	☐ Yok	☐ Adet/Kat
	Yangın Dedektörü	☐ Var	☐ Yok	☐ Adet/Kat
	Yangın Dolabı	☐ Var	☐ Yok	☐ Adet/Kat
Isınma Sistemi :	Sistem Tipi	☐ Kat	☐ Merkezi	☐ Merkezi / Harici
	Kazan Yakıt Tipi (Motorin, Fueloil, Odun/Kömür, Doğal Gaz, Diğer)	_____		
	Kazan Modeli ve Yapım Yılı	_____		
	Kazan Gücü	_____		
	Kazan Boyutları	_____		
	Petek Tipi	☐ Aluminyum	☐ Demir Döküm	☐ Fancoil
Soğutma Sistemi :	Klima Tipi	☐ Dahili	☐ Split / Harici	☐ Adet/Kat
Havalandırma/HVAC :	Tesisat Donanımı	☐ Var	☐ Yok	
	Tesisat Binası (Harici)	☐ Var	☐ Yok	
Su Deposu :	Depo Yapım Malzemesi (Sac, Plastik, Fiber)	_____		
	Depo Kapasitesi (lt, ton, m³)	_____		
Sıvı/Gaz Silosu :	Silo Yapım Malzemesi (Sac, Plastik, Diğer)	_____		
	Silo Kapasitesi (lt, ton, m³)	_____		
Ek Donanımlar :	_____			
	_____			
	_____			

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

6.0 YAPI KULLANIMI ANKETİ	
Yapıda Sürekli Bulunan İnsan Sayısı ?	
Yapı Alanı Yeterli mi ?	
Yapının Mevcut Yapısal Sıkıntısı Var mı ?	
Yapının Mevcut Mekanik Sıkıntısı Var mı ?	
Yapı ile İlgili İleriye Dönük Plan Var mı?	

7.0 ELEKTRİK/ELEKTRONİK ve MEKANİK DONATI BİLGİLERİ ((PAFTAYA İŞLENECEK)				
Elektrik Tesisatı :	Ana Pano	☐ Dahili	☐ Harici	☐ Adet/Kat
	Elektrik Tavaları	☐ Var	☐ Yok	☐ Adet/Kat
	Sigorta Kutuları	☐ Var	☐ Yok	☐ Adet/Kat
Elektronik Tesisat :	Anons Sistemi	☐ Var	☐ Yok	☐ Adet/Kat
	Kamera İzleme Sistemi	☐ Var	☐ Yok	☐ Adet/Kat
	İnternet/İntrenet Kutuları	☐ Var	☐ Yok	☐ Adet/Kat
	Güvenlik Alarmı	☐ Var	☐ Yok	☐ Adet/Kat
Elektrik Jeneratörü :	Tesisat Donanımı	☐ Var	☐ Yok	
	Tipi ve Kapasitesi			
Yıldırımdan Korunma :	Tesisat Donanımı	☐ Var	☐ Yok	
	Yeri ve Adeti	☐ Adet/Kat		

İSMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI

ARTI

ŞEHİR :
İLÇE :
YAPI ADI :
BİNA ADI / KODU :

YAPI İNCELEME FORMU

2.0 YAPISAL SİSTEM BİLGİLERİ

Taşıyıcı/Bölme Duvar : ☐ Harman Tuğlası ☐ Boşluklu Fabrika Tuğlası → ☐ Yatay Delikli / ☐ Düşey Delikli
☐ Gaz Beton

Bodrum Kat Duvarı : ☐ Perde ☐ Taş Duvar ☐ Yok

Kuranglez : ☐ Var ☐ Yok

Dış Cepheye Yakın Yüksek İstinat Duvarları : ☐ Var ☐ Yok Varsa Mesafesi : _____

Döşeme Sistemi : ☐ Plak ☐ Kirişli Plak ☐ Mantar ☐ Asmolen ☐ Kaset

Temel Sistemi : ☐ Radye ☐ Kirişli Radye ☐ Tekil-Sürekli ☐ Sürekli ☐ Tekil
☐ Duvar Altı ☐ Belirlenemedi

Gizli Yapısal Elemanlar : ☐ Var ☐ Yok *NOT: Yapısal Sistem Dikkatele İncelendikten Sonra Doldurulacaktır.*

Eleman Tipi ve Yeri(B/A Perde, Kolon, Kiriş, Hatıl) : _____

3.0 GÖZLEMLENEN YAPISAL DÜZENSİZLİKLER

Kısa Kolon : ☐ Var ☐ Yok _____

Yumuşak Kat : ☐ Var ☐ Yok _____

Planda Büyük Boşluklar : ☐ Var ☐ Yok _____

Boykesitte Düzensizlik : ☐ Var ☐ Yok _____

Planda Düzensizlik : ☐ Var ☐ Yok _____

Taşıyıcı Duvar Süreksizliği : ☐ Var ☐ Yok _____

Aks Düzensizliği : ☐ Var ☐ Yok _____

İSMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI

ARTI

ŞEHİR :
İLÇE :
YAPI ADI :
BLOK ADI / KODU :

YAPI İNCELEME FORMU

1.0 YAPI HAKKINDA GENEL BİLGİLER

Bina Adı : _____
Bina Adresi : _____
Telefon / Faks : _____
Firma Proje Kodu : _____
Bayındırlık Proje Kodu : _____
Yapım Yılı : _____
Derslik Sayısı: _____ Öğrenci Sayısı: _____ Öğretmen Sayısı: _____

Kullanım Amacı : ☐ Otel ☐ Okul/Yurt ☐ Konut ☐ Depo/Antrepo ☐ Spor / Konferans Salonu
☐ Tiyatro ☐ Hastane ☐ Garaj ☐ Alışveriş Binası ☐ İşyeri / Kamu Binası
☐ Diğer : _____

Mimari Projesi : ☐ Var ☐ Yok Statik Projesi ☐ Var ☐ Yok

Taşıyıcı Sistem : ☐ B/A Çerçeve ☐ B/A Çerçeve + Perde ☐ Tünel Kalıp
☐ Yığma ☐ Karma ☐ Yapısal Çelik

Bina Kat Açılımı : Bodrum Kat/ları : ☐ Var ☐ Yok Kat Adeti : _____
Asma Kat : ☐ Var ☐ Yok Yeri : _____
Normal Kat Adeti : _____
Yazıyla Kat Açılımı : (2B+Z+3N+1A) _____

Bina Oturum Alanı : (Boy x En = Alan m²) _____

Genleşme/Deprem Derzi : ☐ Var ☐ Yok

Bitişik Nizam : ☐ Var ☐ Yok Seviye Farkı : ☐ Var ve Miktarı : _____ ☐ Yok

Giydirme Cephe : ☐ Var ☐ Yok Cepheler : _____

Çatı Tipi : ☐ Teras ☐ Çelik Uzay ☐ Çelik Makas ☐ B/A Kabuk ☐ Ahşap Oturtma

Çatı Kaplama : ☐ Sac ☐ Cam ☐ Kiremit Diğer : _____

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

4.0 GÖZLEMLENEN HASARLAR (PAFTAYA İŞLENECEK)

Yapı Etrafındaki Kaldırımlarda Çatlaklar :	☐ Var	☐ Yok	
Toprak İtkisi Riski :	☐ Var	☐ Yok	
Zeminde Oturma / Çökme :	☐ Var	☐ Yok	
Dış Cephe Sıvasında Hasar :	☐ Var	☐ Yok	
Binada Belirgin Deplasman :	☐ Var	☐ Yok	
Derzlerde Açılma :	☐ Var	☐ Yok	
Taşıyıcı Duvar / B/A Perde Hasarları:			
Oturma Çatlakları :	☐ Var	☐ Yok	
Kesme Çatlakları :	☐ Var	☐ Yok	(Tek yönlü / çapraz)
Yüzey Betonda Dökülme :	☐ Var	☐ Yok	
Donatıda Korozyon :	☐ Var	☐ Yok	
Soğuk Derz :	☐ Var	☐ Yok	
B/A Kolon Hasarları:			
Eğilme Çatlakları :	☐ Var	☐ Yok	
Kesme Çatlakları :	☐ Var	☐ Yok	
KolonKiriş Birleşim Çatlağı:	☐ Var	☐ Yok	
Kolon Başlığında Ezilme :	☐ Var	☐ Yok	
Yüzey Betonda Dökülme :	☐ Var	☐ Yok	
Donatıda Korozyon :	☐ Var	☐ Yok	
Soğuk Derz :	☐ Var	☐ Yok	

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

4.0 GÖZLEMLENEN HASARLAR - DEVAMI

Hatıl / B/A Kiriş Hasarları:

Kesme Çatlakları : ☐ Var ☐ Yok _____

Yüzey Betonda Dökülme : ☐ Var ☐ Yok _____

Donatıda Korozyon : ☐ Var ☐ Yok _____

Soğuk Derz : ☐ Var ☐ Yok _____

B/A Döşeme Hasarları:

Kesme/Eğilme Çatlakları : ☐ Var ☐ Yok _____

Belirgin Sehim : ☐ Var ☐ Yok _____

Yüzey Betonda Dökülme : ☐ Var ☐ Yok _____

Donatıda Korozyon : ☐ Var ☐ Yok _____

Rutubet ve Korozyon: Su Dolaşımından Kaynaklanan Hasar:

Dış Cephede Hasar : ☐ Var ☐ Yok Varsa Yeri : _____

Döşemelerde Hasar : ☐ Var ☐ Yok Varsa Yeri : _____

Diğer Yapısal Elemanlarda : ☐ Var ☐ Yok Varsa Yeri : _____

5.0 YAPISAL TADİLAT

Taşıyıcı Sistemde Tadilat : ☐ Var ☐ Yok Açıklama : _____

Ek Açıklama ve Notlar : _____

ISMEP (CB1.3G) ÖNCELİKLİ KAMU BİNALARININ DEPREM DAYANIMININ İNCELENMESİ VE GÜÇLENDİRME PROJESİ HAZIRLANMASI	
ARTI	ŞEHİR : İLÇE : YAPI ADI : BİNA ADI / KODU :
YAPI İNCELEME FORMU	

MALZEME LİSTESİ 2/2

9 - Yer Kaplamaları

Doğal Taşlar : Mermer, Granit, Traverten

Suni Taşlar : Karo Mozaik, Dökme Mozaik, Suni Mermer, Seramik, Greseramik

Diğer : Halı, Laminat, PVC, Marley (Asbestli), Vinil, Epoksi, Ahşap Parke (Lamine, Masif-Rabıta/Balıksırtı) Şap

10 - Süpürgelik

Ahşap, Seramik, Mermer, Dökme Mozaik, karo Mozaik, Granit, Suni Mermer, PVC

11 - Denizlik / Parapet

Seramik, Mermer, Dökme Mozaik, karo Mozaik, Granit, Suni Mermer, PVC