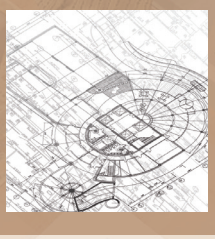
ISMEP ISTANBUL SEISMIC RISK MITIGATION AND EMERGENCY PREPAREDNESS PROJECT







COMPONENT C

Building Code Enforcement

İSTANBUL PROJE KOORDİNASYON BİRİMİ
IPKB

WE ARE STRENGTHENING OUR FUTURE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ISMEP
ISTANBUL SEISMIC RISK MITIGATION AND
EMERGENCY PREPAREDNESS PROJECT

Building Code Enforcement

(Component C)

As the Director of Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP), it is an honour for me to share this publication with you. Being the first risk mitigation project implemented in Turkey, ISMEP is accepted as one of the most successful examples of disaster prevention approach not only in Turkey but also in the world.

The Project consists of three main components: 'Enhancing Emergency Preparedness', 'Seismic Risk Mitigation for Priority Public Facilities' and 'Building Code Enforcement.' This document includes details of Component C: Building Code Enforcement.

All project activities under the three main components of the project are handled in an integrated manner in parallel with modern disaster management principles and international developments relevant to the area with active participation of all stakeholders and resources, and enhanced so as to follow a community based approach.

I would like to thank everyone, who shares our enthusiasm for Istanbul with a strengthened future.

Sincerely yours,

Kazım Gökhan Elgin
IPKB Director

ISMEP

The Giant Project of Istanbul

In today's conditions, more than half of the world population lives in cities and "urban millennium" has started to increase risks for natural hazards already born by big cities.

Being the biggest metropolitan of Turkey, Istanbul continues to be the capital of culture, economy and industry owing to her values owned and produced; yet she carries a high risk for earthquake owing to her close position to the North Anatolian Fault.

A potential earthquake in Istanbul may have a huge impact not only on the city herself, but on the whole country in economic terms.

Due to several reasons her geographical position, use of settlement areas, social structure and her important place in Turkish economy, Istanbul is face to face with various disaster risks, earthquake being the first place.

Studies show that a possible earthquake in Istanbul will not only cause casualties and thus agony for human beings, but also serious economic, social and environmental impacts. Some resources claim that such a disaster will have an economic impact of more than 50 billion US dollars.

Today, significant progress has been made by the practices brought into action in parallel with the lessons learned from the disasters experienced in Istanbul and in other parts of the country and the international developments.

"Risk mitigation" and "preparedness" activities, which involves pre-disaster prevention measures, are now the most important component of disaster management.

Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP) is a project to ensure preparedness of Istanbul and the Istanbulites for possible disasters being, particularly for earthquakes.

Component C of the ISMEP Project, Building Code Enforcement, supports activities to enhance the processes for building code and the issuance of building permits at municipalities as well as training of several target groups. Component C is of crucial important in terms of being a role model for other municipalities.

Main Components of ISMEP

COMPONENT A

Enhancing Emergency Preparedness

This component aims to prepare the city of Istanbul for emergencies which could occur and affect the institutions related to emergency and disaster management, especially for emergencies caused by an earthquake, and to increase their response capacities. Within the scope of this component, the following activities are to be realized:

- Emergency Communication Systems
- Disaster and Emergency Information System
- Increasing the Institutional Capacity of Directorate of Disaster and Emergency
- Increasing the Response Capacity
- Training and Raising Awareness of the Public

COMPONENT B

Seismic Risk Mitigation for Priority Public Facilities

Component B covers the activities regarding the priority public buildings, support for the national disaster activities and the buildings within the scope of cultural and historical heritage. Within the scope of this component, the following activities are to be realized:

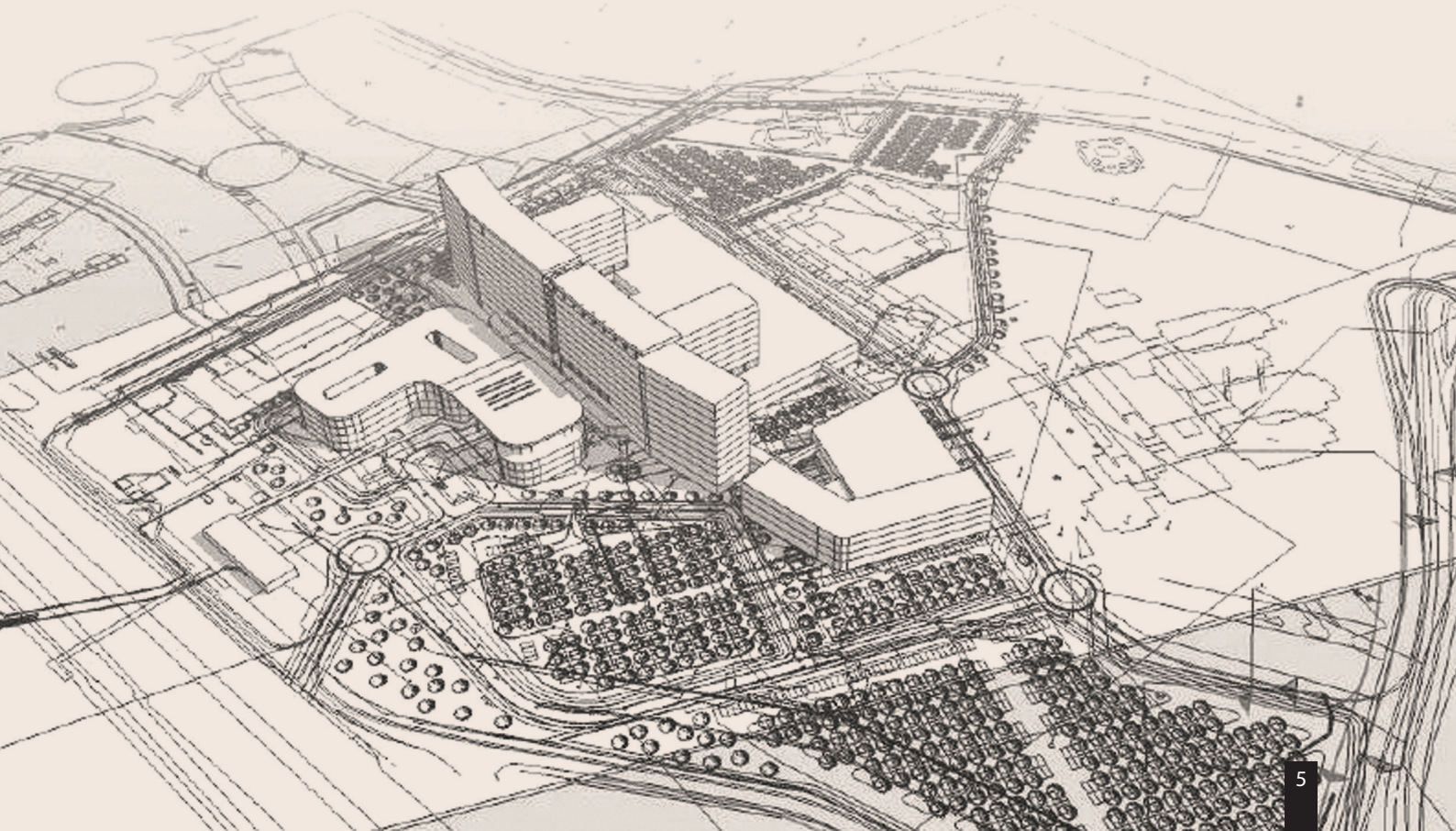
- Retrofitting Activities
- Reconstruction Activities
- Supporting the National Disaster Activities

COMPONENT C

Building Code Enforcement

Component C involves improvement of institutional and technical capacity for better building code enforcement as well as various training activities. The component supports the implementation of following activities:

- Improvement of Building Code and Building Permit Processes
- Training of Engineers
- Building Awareness and Training Activities



Building Code Enforcement

Component C of the Istanbul Seismic Risk Mitigation and Emergency Preparedness Project (ISMEP) basically covers strengthening institutional and technical capacities of pilot district municipalities in order for better enforcement of building permit processes, and organising training activities to raise awareness on disaster preparedness. These projects have been implemented since 2006 within the protocol agreements signed between the Ministry of Environment and Urbanism, the IPCU and Pendik and Bağcılar Municipalities chosen as pilot municipalities.

Structural inadequacies of the buildings in seismic terms along with deficiencies in construction and supervision processes are hindering safe settlements.

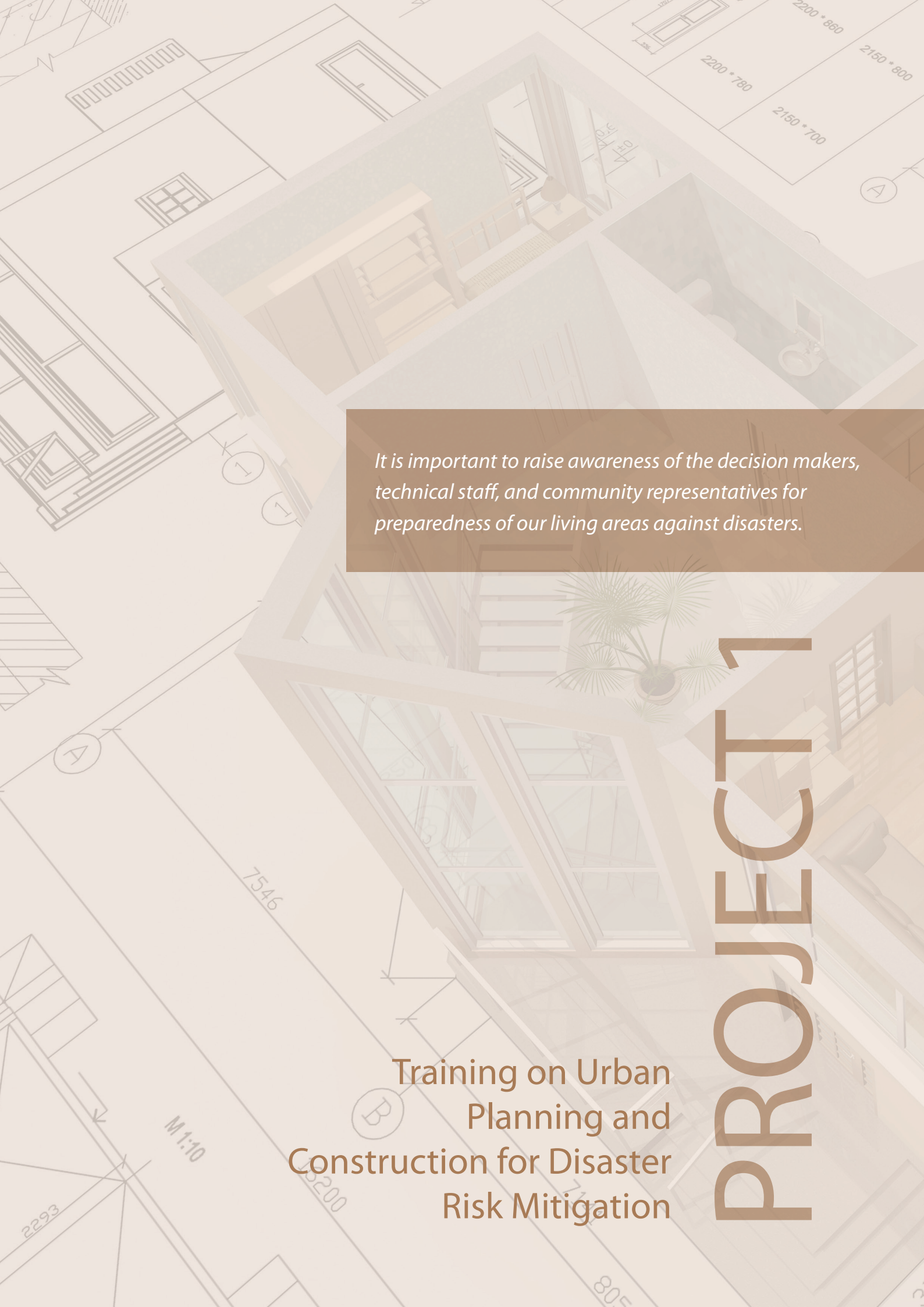
Adding stories to the buildings or making structural changes without any permission causes a situation of no structural safety in the face of a possible major earthquake.

In this regard, it is crucial for disaster mitigation to control and ensure compliant construction process with building permits through better building supervision processes by municipalities as well as to expand officially permitted constructions to the possible extent.

Furthermore, training projects under the Component C aim at raising public awareness and information on mitigation of disaster risk and measures to be taken.

COMPONENT C

Organisation of Training Activities	Improvement of Technical Capacity for Municipalities
Project 1 Training on Urban Planning and Construction for Disaster Risk Mitigation Training for Municipalities	**Project 3** Streamlining Building Permit Procedures in Pilot Municipalities (15 sub-projects) - Improvement of IT infrastructure - Organisation and integration of address (geo)-based data - Establishment of document/archive management systems
Project 2 Training of Civil Engineers on Earthquake Regulations (in cooperation with the Ministry of Environment and Urbanism)	



It is important to raise awareness of the decision makers, technical staff, and community representatives for preparedness of our living areas against disasters.

PROJECT 1

Training on Urban Planning and Construction for Disaster Risk Mitigation

Disaster Risk Mitigation and Urban Planning Training for Municipalities / Training of Community Representatives

This project includes public information and awareness activities on the importance of urban planning and construction to mitigate disaster damage. "Safe City Safe Life Trainings" aim to raise awareness of the participants on disaster preparedness, structural and urban risks, measures to be taken, and roles and responsibilities of the municipalities as well as of the community.

The training has been designed for three target groups, namely decision makers at municipality level, technical staff and community representatives. Following the design and development of training themes and materials, pilot training activities have been held at pilot municipalities for testing purposes. The training materials and structure have then finalised based on the feedback of the participants.

TARGET GROUPS

Decision Makers	Governors, mayors and deputy mayors, directors, managers of sub-provincial directorates (3 hours)
Technical Staff	Architects, engineers, urban planners (8 hours)
Community Representatives	NGOs, citizens, participants from education and health sectors, religious leaders and mukhtars (4 hours)

CONTENT OF TRAINING

- Natural Disasters and Their Impact on Our Cities
- Importance of Urban Planning in Disaster Mitigation
- Building and Construction Process
- Urban and Structural Risks
- Risk Analysis
- How Can We Have Safe Cities? What Needs to be Done at City and Structure Level?
- What Can We Do Against Disasters as a Community?

This pool of content themes varies according to the target group.

Training Activities on Urban Planning and Construction for Disaster Mitigation / Training of Technical Staff

TRAINING TECHNIQUES

- Work Groups (4-7 persons)
- Open Discussion and Assessments
- Learning by Drawing (on current map section of the district)
- Urban Observation and Field Study
- Risk Analysis Study (only for technical staff)

Participative training techniques are used in the training activities so as to provide the trainees with the opportunity to discuss among themselves, to produce information, and to improve their knowledge level. At the same time, it is possible to raise awareness of the trainees about the factors improving the disaster risk on the structures and land uses constituting the urban environment.

The observations and suggestions made by the trainees during the working groups with regard to the urban risks are then presented during the collectivization meetings gathering target groups. These meetings, held in both municipalities, have put forward settlement and planning problems at risky areas as well as urban risks in the current municipality scale to be taken into consideration in the building

BAĞCILAR	11 (Community Representatives) 2 (Decision Makers) 1 (Technical Staff)	June – July 2009 June 2009 May 2009	294 17 350
PENDİK	12 (Community Representatives) 2 (Decision Makers) 1 (Technical Staff)	November 2009 September 2009 – January 2009 November 2009	350 37 21

"Information on training activities held in pilot municipalities"

PROJECT PREPARATION AND IMPLEMENTATION PHASES

Planning	Implementation	Dissemination
•Content Analysis •Needs Analysis •Literature Review •Stakeholder Institution Map	• Meetings with Stakeholder Institutions • Opinion and Expectation Analysis • Development of Strategic Plan and Module Content • Development of Training Programmes • Development of Training Materials • Trainers' Training	•Pilot Training of Bağcılar and Pendik Municipalities •Dissemination Training Activities •Collectivization Meetings

It is important in terms of ensuring safe building to respond to the technical information needs of civil engineers about earthquake regulations.

PROJECT 2

Training of Civil Engineers on "Regulations for Buildings to be Built in Earthquake Zones"

Training of Civil Engineers on "Regulations for Buildings to be Built in Earthquake Zones"

This project, being implemented within the framework of the protocol agreement signed with the implementing agency, the Ministry of Environment and Urbanism, on 8 June 2007, aims to training civil engineers throughout the country on the "Regulations for Buildings to be Built in Earthquake Zones" issued on 6 March 2007.

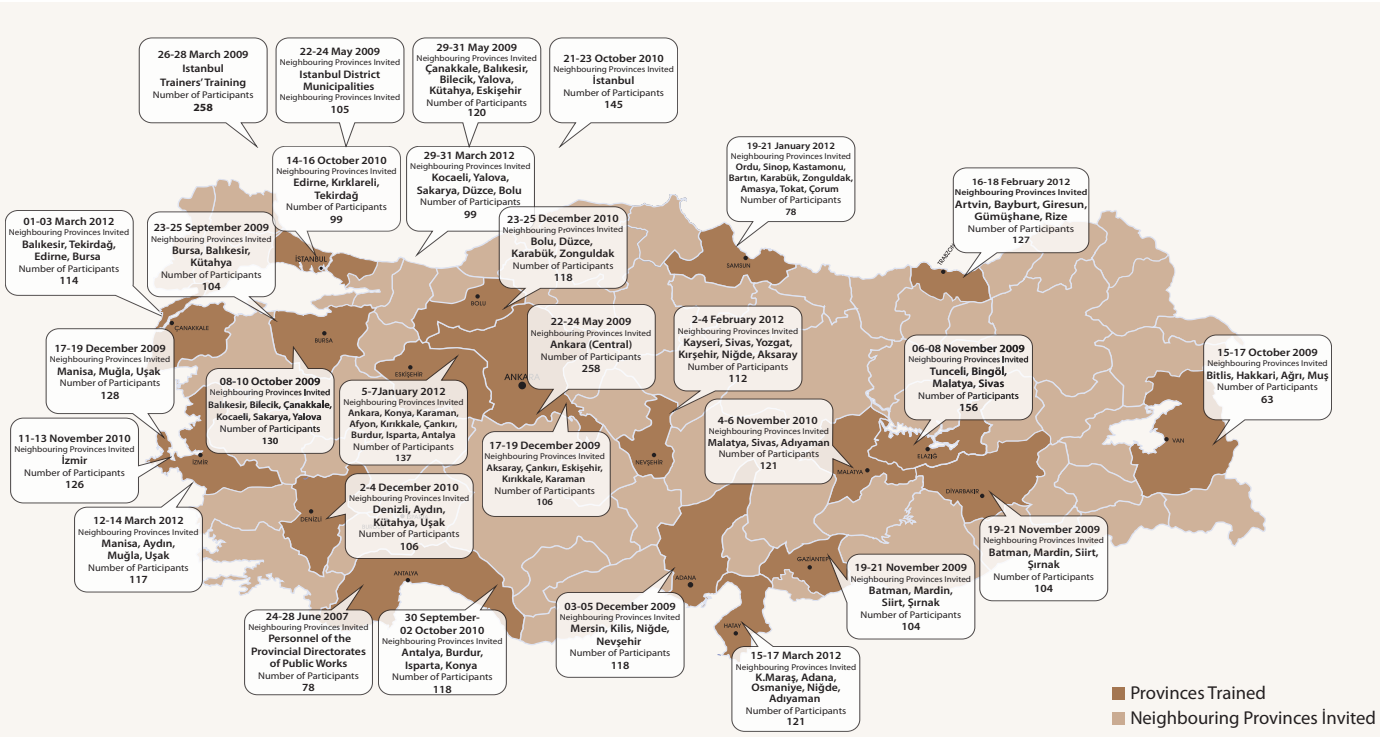
Due to the need for information about the content and implementation of the aforementioned regulations, a training activity was organised under the ISMEP for civil engineers throughout the country in order to respond to this need. In this regard, a total of 3,631 civil engineers were trained as of March 2012.

Training of Civil Engineers were held in three phases:

PHASE 1	Preparation of training programmes and materials
PHASE 2	Training of trainers
PHASE 3	Implementation of a country-wide training programme for civil engineers (3-day)

CONTENT OF TRAINING

- Basic Concepts in Earthquake Engineering
- Calculation Basis for Buildings with Earthquake Risk
- Reinforced Concrete Buildings with Earthquake Impact
- Steel Buildings with Earthquake Impact
- Assessment and Reinforcement of Current Buildings with Earthquake Impact
- Masonry Buildings with Earthquake Impact
- Examples
  - ✓ Design Models for New Reinforced Concrete Buildings
  - ✓ Design Models for New Steel Buildings
  - ✓ Assessment and Reinforcement Models for Reinforced Concrete Buildings
  - ✓ Design, Assessment and Reinforcement Models for Masonry Building



Within the framework of the project, a total of 3,631 civil engineers were trained on the "Regulations for Buildings to be Built in Earthquake Zones".

Tranings of civil engineers

Training materials were designed and developed by the academic and technical team that already participated in the preparation of the regulations. At the same time, training was provided to the trainers who would be responsible for training activities throughout the country.

Civil engineers to be trained are invited by the Ministry, with the help of the local chamber of civil engineers, from metropolitan and district municipalities and provincial directorates affiliated to the Ministry.

At the end of the 3-day training, trainees are taken to an evaluation on a voluntary basis. Based on the exam results, the Ministry provides participation or completion certificates to the trainees.

The building permit issuance procedures in pilot municipalities have been improved so as to have a monitorable, transparent and reportable infrastructure.

PROJECT 3

Streamlining of the Procedures for Issuing Building Permits at Pilot Municipalities

Illegal and unlicensed buildings emerged in big metropolitan cities especially after 1980s increase the vulnerability of our living spaces to disasters. Thus, having a construction and land use development process compliant with building principles and licenses is a crucially important and basic step for disaster preparedness. In this regard, it is aimed at ensuring more effective processes for development, building permits and occupation permits as well a more transparent and effective response system for all kinds of applications and compliants by citizens and project owners regarding such processes.
Main stages of the project as implemented in Bağcılar and Pendik municipalities chosen as pilot municipalities according to the criteria set out in Istanbul Earthquake Master Plan are as follows:

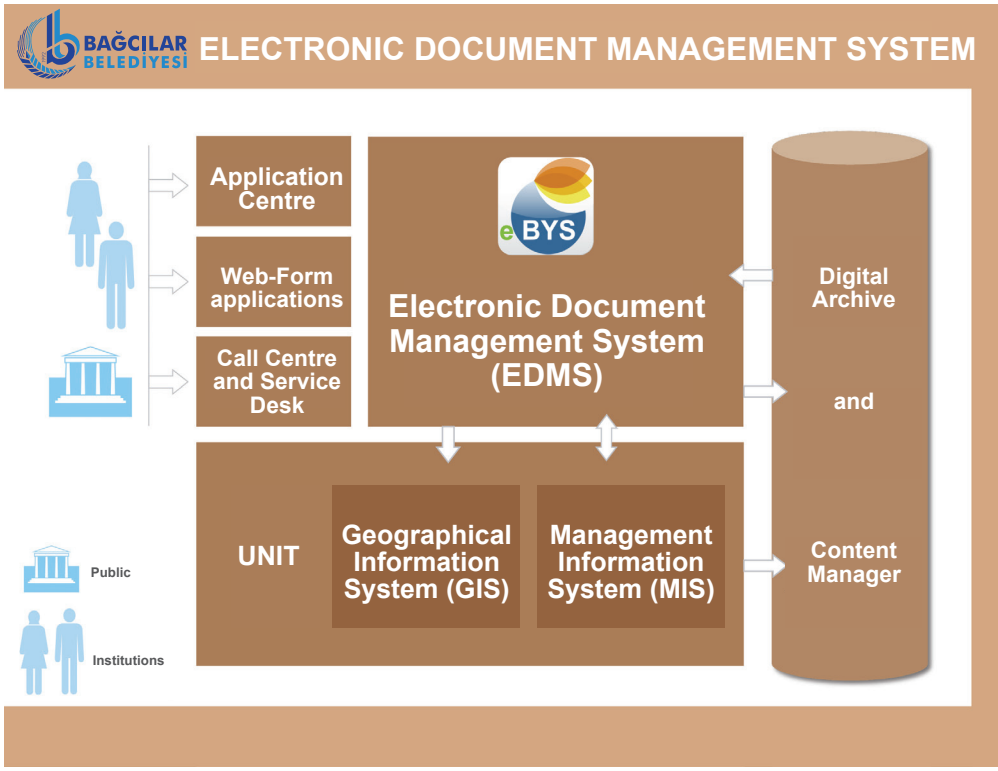
1. Analysis and assessment of current situation (March 2006 – January 2007): Building and licensing processes were analysed according to the pre-determined process performance criteria (e.g. number of documents required, average duration, number of approvals, number of work steps, compliance with legislation, traceability). Accordingly, it was set forth that the municipal units need to follow up, report and shorten the long processes of building, planning and licensing activities. Additionally, it was emphasised that such services should be provided to citizens in a transparent and accountable manner.

2. Determination of project activities (January – March 2007): The project activities having been implemented since 2006 was determined in collaboration with the municipalities. Project implementation and budget plan was prepared accordingly.
3. Signing protocol agreement (September 2007): IPCU signed protocol agreements with the pilot municipalities covering the project activities, the implementation plan and the conditions.

4. Project implementation (September 2007 – May 2012): In collaboration with the relevant units of the municipalities, technical specifications of the activities determined within the framework of the implementation plan was prepared, and the bidding procedures were commenced.

This project for enhancing the building and licensing processes at the pilot municipalities covers, in an integrated approach, data management, process improvement and accordingly the procurement of hardware, software and consultancy services as well as training and technical capacity building.

Collecting and matching up the datas based on address



PROJECT COMPONENTS

1. Strengthening IT Infrastructure of the Municipalities

2. Arrangement, Collection, Digitalisation and Integration of Address-Based Data (Spatial and Non-Spatial), and Establishment of a Digital Building Archive

3. Improvement and Integration of Land Use and Building Permit Processes and Procedures into a Document Management System (Electronic Document Management System), and Establishment of a Call Centre

1. Strengthening IT Infrastructure of the Municipalities

According to the implementation plan, within the project objectives, the current IT infrastructure of two municipalities were improved and strengthened in order to ensure better management of land use and building permit processes.

Primarily, security rules and requirements were put forward for using, storing and sharing all spatial and non-spatial data at the municipalities, and activities were held to strengthen the IT infrastructure of the municipalities accordingly.

In this regard, consultancy services were started in the municipalities as of September 2009 for the establishment of ISO 27001 Information Security Management System (ISMS), and based on the inspections conducted by independent inspectors, Pendik Municipality was successful to be receive ISO 27001 certificate on 1 October 2010, and Bağcılar Municipality on 8 October 2010. Thus, these two municipalities were the first ones to have ISO 27001 certification in Turkey. This certificate, submitted to only two thousand institutions throughout the world, was received mainly by private institutions in Turkey such as the Capital Markets Board or Sabancı Group.

The aforementioned consultancy services analysed the possible risks in the IT infrastructure of both municipalities, and necessary measures were taken on the basis of the risks revealed. Disaster recovery, back-up and business continuity plans was defined, implemented and tested, security measures were taken, and required training activities were completed.

At the same time, software required to improve the IT infrastructure of the municipalities as well as hardware for the establishment of disaster recovery systems were

procured in order to achieve the project objectives. Local network infrastructure was improved to be compliant with the requirements of the information security management system. Rules and principles regarding back-up, storage and data security were determined and put into action for both municipalities.

2. Arrangement, Collection, Digitalisation and Integration of Address-Based Data (Spatial and Non-Spatial), and Establishment of a Digital Building Archive

Due to the importance of providing all permission actions on the basis of updated and accurate data, collection, arrangement and integration of address-based (spatial and non-spatial) data was completed for both municipalities.

- The numbering map and address stocks officially used by the Municipalities were made compatible with the National Address System Database under the centralised system in accordance with the new address numbering code.

- Addresses of property owners in the municipalities' database were synchronised with the National Address System Database.

- Based on field works, each building and housing unit were registered with bar code labels, and necessary revisions and updates were made by comparing them with the existing database records in the municipality.

Study of digital building archive

Address information disorders in corner buildings were revised and back doors were registered; accordingly, the identified data is as follows:

- Building No (Bağcılar: 93,268 Pendik: 58,809)
- Housing Unit No (Bağcılar: 200,000 Pendik: 200,000)

- Workplace No (Bağcılar: 20,000 Pendik: 8,900)

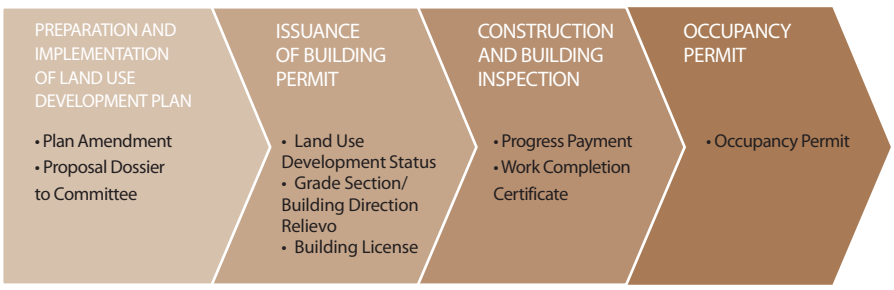
- Photographs were taken and digitised for each road, building and detached housing units (approximately 140,000 building photographs for each municipality)

- The building/permit archive was digitised in order to ensure faster access to the archived information required for issuance of building permits (approximately 70 documents; the number of files: 47,000 for Bağcılar and 91,000 for Pendik). An updated and accurate geographical information system was established through integration of spatial and non-spatial data based on address and/or map section/block/parcel.

3.Improvement and Integration of Land Use and Building Permit Processes and Procedures into a Document Management System and Establishment of a Call Centre

The last phase of the project included the establishment of a document management system to enable follow-up, monitoring, registering and reporting of all relevant processes and procedures in both municipalities in accordance with the current electronic document standards (TSE 13298). With the arrangement of incoming/outgoing correspondences, the municipalities are now in a position to monitor all kinds of documents and/or procedures (e.g. issuing permits, statements, visa, work completion documents, building status documents) on the basis of parcel and address information within the urban information system. Additionally, having been integrated into this system, a service desk and call centre were established to ensure active monitoring of all requests, complaints or applications by citizens. Thus, it will be possible for a municipality to respond to any compliant or application submitted by citizens in an effective and timely manner. Detailed reporting techniques made it possible to measure the status and the quality of the services provided.

LAND USE DEVELOPMENT AND BUILDING PERMIT PROCESSES



Municipalities' Views on the Project

Kenan ŞAHİN
Mayor of Pendik

"Pendik is the first municipality to implement electronic signature."

We have conducted several development activities within the field of Information Technologies and Land Use/Urban Development in order to obtain recent and valid information regarding land use development and building permit and to implement these works more quickly and open for monitoring, with a view to be prepared against disasters within the framework of ISMEP. One of the improvements performed in this respect was to implement EDMS (Electronic Document Management System).

With EDMS all address-based data has been harmonised with the data from TurkStat. Files in the land use development and permit archive, current issuance of building permits and work flows were analysed to be transferred into electronic environment along with 10 million documents. Thus, the duration of work flows and the personnel currently working on them may be detected by following documents digitally. Furthermore, detailed reporting techniques were developed wherein complaints or applications filed by citizens are followed.

Besides being first to accomplish all procedures in electronic document management systems, Pendik is also the first municipality to be certified with ISO 27001, the most commonly accepted Information Security Management System certificate in the world with regard to information system and data security. All address-based data in our Municipality are momentarily backed up in the disaster recovery centre established at a separate location, thus allowing access to all data from this centre in case of a disaster. Moreover, all of these processes are audited through various tests under ISO 27001 with regard to Information Security Management Systems.

Ali Aydın
Deputy Mayor of Bağcılar

"With ISMEP we have improved to provide better services by enhancing issuance procedures in our municipality."

Having been selected as a pilot municipality within the framework of ISMEP, Bağcılar Municipality completed project activities regarding "Better Enforcement of Building Permit Issuances" that have been underway since 2006. Under the project implemented in collaboration with Istanbul Project Coordination Unit which is responsible for the realisation of ISMEP, all sub-processes regarding land use development and building permit issuance have been improved and related works and procedures have been being carried out digitally by January 2012. Thus, a followable and reportable infrastructure has been established in our municipality.

Within this framework, IT infrastructure systems have also been established for securing, storing and sharing both spatial and non-spatial address based data. In this respect, the municipality was deemed worthy of ISO 27001 Information Security Management System certificate. Internet use in the organisation has been improved to be compatible with articles of Law no. 5651 on Regulation of Broadcasts via Internet. All address-based data has been harmonised with the data from National Address Database.

All of the files that have been currently kept in the land use development and permit archive were scanned and transferred to digital environment after being subjected to image enhancement, digitalizing and indexing processes. Current permit procedures and work flows have been analysed and defined on EDMS (Electronic Document Management System).

Permit issuance processes can be completed in a shorter time in the municipality by means of electronically formed documents. All services are conducted digitally, thus providing an environment-friendly, paper free work environment.

As a result of activities implemented under ISMEP, approval procedures regarding building permits and land use development services have been shortened considerably. It has become possible to apply and make an inquiry about the related application or work orders online.

Work flow between different directorates managing the same process has been facilitated. By this means a fast, followable and measurable infrastructure has been established which can satisfy contemporary needs, instead of work and application files sitting idly on tables.

"Ceremony for the Establishment of the Electronic Document Management System" at Pendik Municipality with the presence of Mr. Nihat Ergün, the Minister of Industry (5 April 2012)

Project Outcomes

Project activities started at both pilot municipalities in 2006 were completed as of April 2012. Accordingly, all sub-procedures for land use and building permits were improved and become transparent, traceable and reportable, and all relevant works and services were started to be handled in digital environment. The following outcomes were obtained from the implementation of these projects:

Approval processes regarding the land use and building permit issuance at municipalities are shorter.

There is a more transparent and accountable service provision to citizens through the web environment, the service desk, and the call centre within the e-municipality system.

There is a secure document approval / digital signature infrastructure in the digital environment.

It is possible to query land use or building permit applications or work orders.

Waiting applications and documents in files are replaced by a faster, traceable and measurable infrastructure responding to modern necessities.

The municipalities are compatible with the National Address Database through an updated address information system infrastructure.

It is easier to manage work flows by different directorates managing the same process.

All municipal services are provided in digital, paper-free environment.

Construction and building control processes in the districts can be monitored through computers.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İSTANBUL PROJE KOORDİNASYON BİRİMİ
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Republic of Turkey
Governorship of Istanbul
Special Provincial Administration
Istanbul Project Coordination Unit

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