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International Recovery Forum 2013

Istanbul Seismic Risk Mitigation and Emergency Preparedness Project

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IPKB İSTANBUL PROJESİ KOORDINASYON BİRİMİ

IRP International Recovery Platform

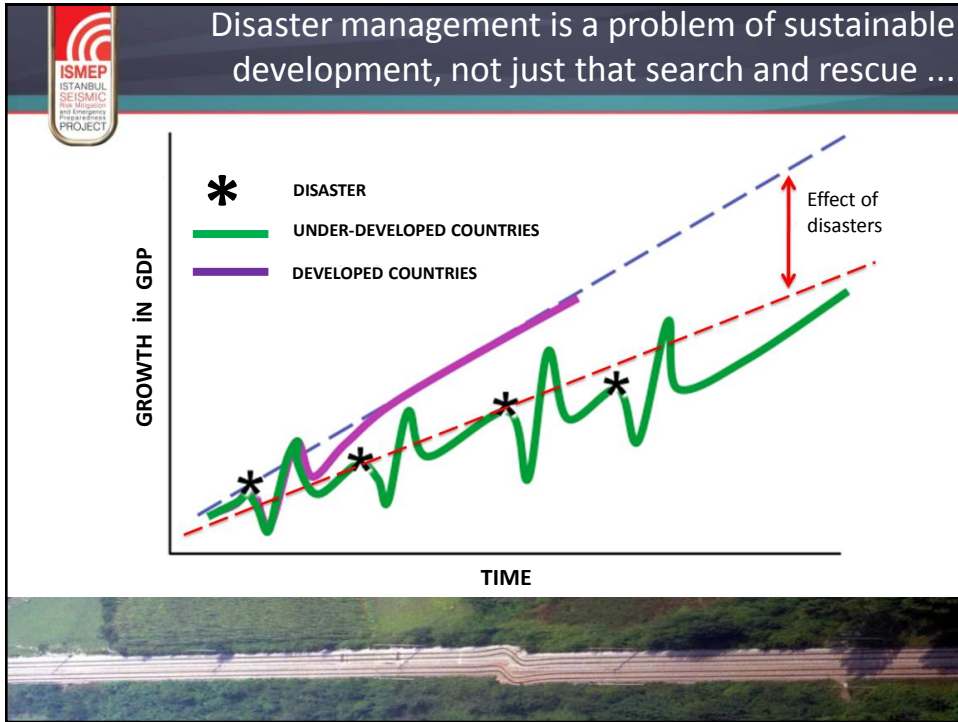


TURKEY and Natural Disasters

TURKEY is prone to mainly three types of natural disasters:

- **Earthquakes;**
 - 70% of the population living in seismically active areas.
 - 66% of the country is located on active fault zones.
 - 75% of damaged buildings and %64 of total disaster losses in the last century are due to earthquakes.
- **Floods;**
 - Mostly in coastal plains and exacerbated by deforestation, erosion and ignorant development.
 - 15% of total disaster losses are due to floods.
- **Landslides;**
 - 25% of country area is exposed to landslide hazard.
 - 11% of total population is located in landslide areas.
 - 16 % of total disaster losses are due to landslides.



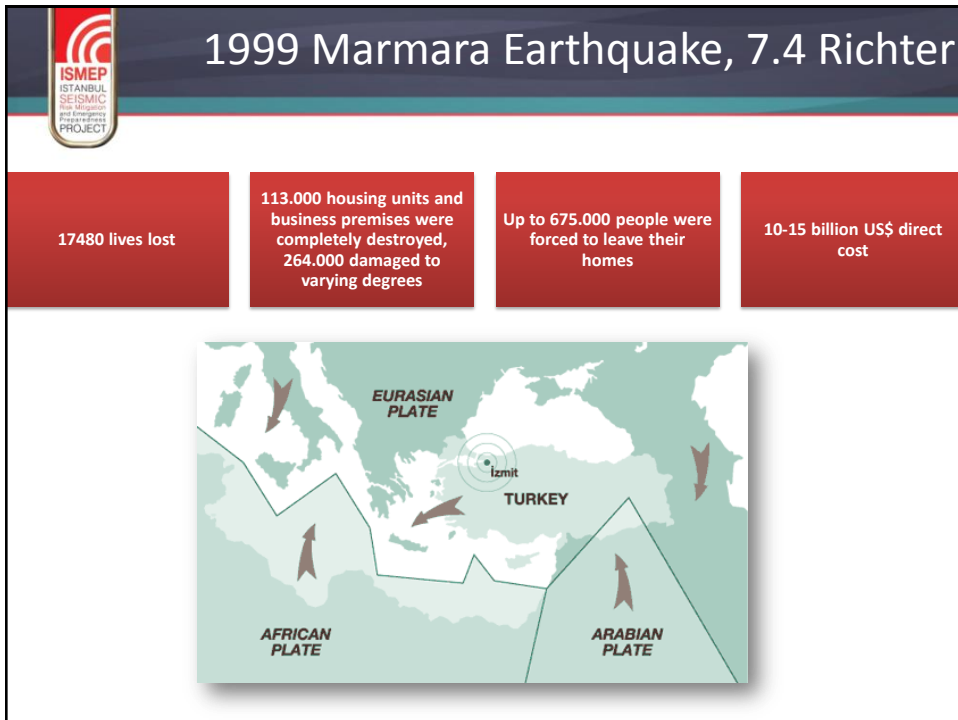


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Summary Data on Disasters Caused by Natural Hazards (1980 -2010) and Number of Human Casualties

Disaster	Nb. of events	Percentage	Total deaths	Total affected
Earthquake	73	1,53	20.636	15.913.252
Epidemic	No data			
Landslide	811	16,97	233	91.081
Flood	172	3,59	75	69.788
Forest Fire	1.623	33,75	19	Over 20 hectares
Rockfall	247	5,16	18	26.747
Fire	275	5,75	79	364
Avalanche	209	4,37	195	18.560
Meteorological Disaster	1.378	28,84	6	
Total	4.778	100,00	21,261	16.119.792

www.afad.gov.tr/tuaa





Paradigm Shift in TURKEY;

In the past

- Fate
- Reactive
- Recovery
- Wait and see
- Ex-post
- Crisis management
- Ad-hoc efforts
- Development at risk

New Strategic Approach

- Choice
- Proactive
- Mitigation
- Anticipate and prevent
- Ex-ante
- Risk management
- Comprehensive approach
- Sustainable development

Prepared by M.S. Bursa and K.G.Elgin



Istanbul



13-14 million people, 20% of Turkey's population, live in İstanbul.




More than 40% of Turkish GNP is generated in the region.









Istanbul

- Comparable seismic risk degree with San Francisco, Los Angeles and Tokyo cities
 - Probability of occurrence of a large earthquake in next 30 years is greater than %62
 - Probability of occurrence of a large earthquake in next 10 years is greater than %20

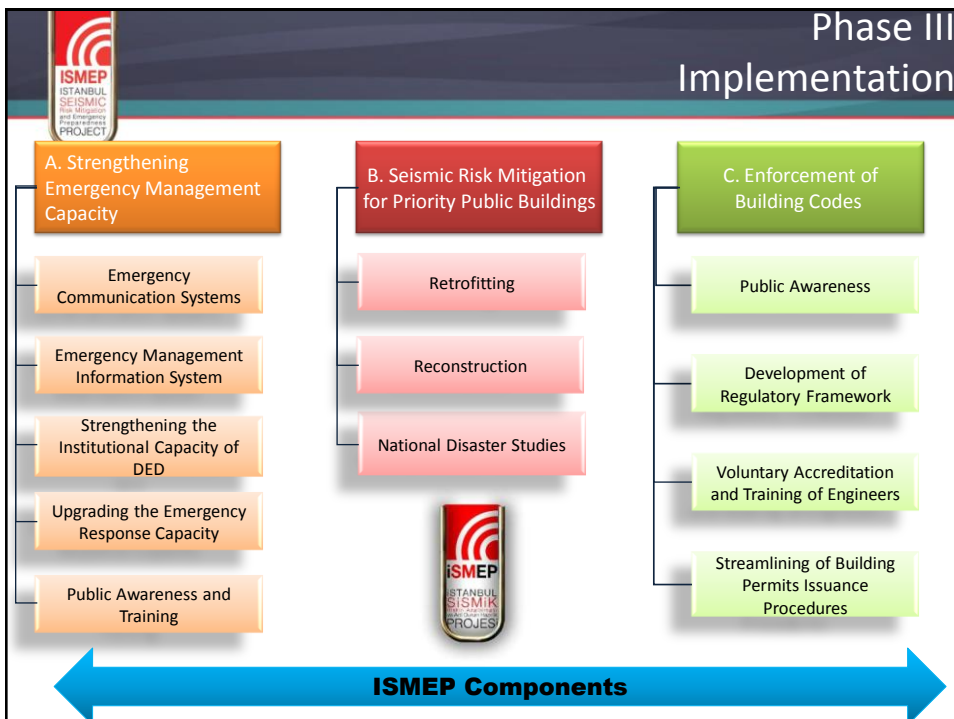
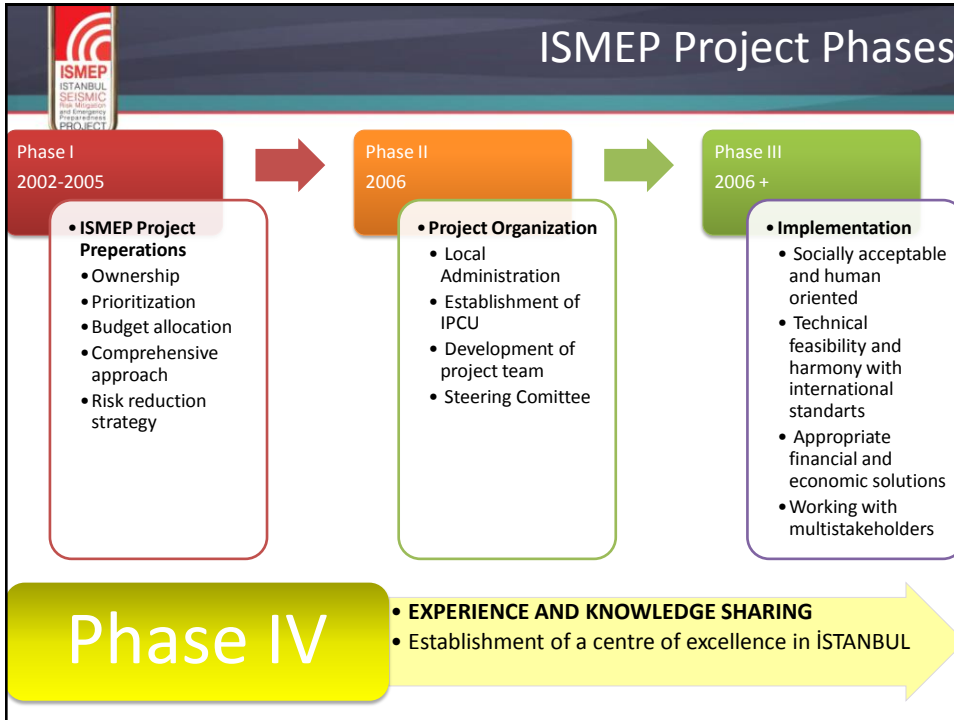
- Impacts after a probable 7.5 Richter scale earthquake in Istanbul;
 - Approximately 70.000 dead people, 120.000 heavily injured people, 400.000 lightly injured people
 - Direct economic loss ~50 billion US \$


2003, Jica/IBB Study, Istanbul Earthquake Master Plan



Istanbul Seismic Risk Mitigation and Emergency Preparedness Project: ISMEP




Country / Region	: Turkey / Istanbul
Project Duration	: 2006 +
Implementation	: Istanbul Special Provincial Administration Istanbul Project Coordination Unit (IPCU)
Finance	: World Bank European Investment Bank Council of Europe Development Bank Islamic Development Bank
Loan Amount	: EURO 1.2 Billion (WB-EIB-CEB-IDB)






Component A

Enhancing Emergency Preparedness

Communication Infrastructure


- To enhance uninterrupted communication system;
 - Analog FM Radio Infrastructure strengthened and extended to cover provincial city limits.
 - Peripheral hardware investments done to have effective communication between agencies;
 - İstanbul Disaster and Emergency Directorate
 - Provincial Health Directorate
 - İstanbul Search and Rescue Unit
 - Provincial Police Department
- Investments:
 - Mobile Relays
 - Regional Relays
 - Analog Radio
 - Radio exchange ve management platform
 - Other peripheral investments



Component A

Enhancing Emergency Preparedness

- Establishment Of Emergency Management Information System
- Procurement of Computers, Network Devices and Active Devices for İstanbul Disaster and Emergency Directorate was completed.
- Software Development for İstanbul Disaster Management Information System has been started to ensure;
 - efficient resource management
 - staff assignment for crisis management
 - organize search and rescue activities
 - etc.



Component A
Enhancing Emergency Preparedness

Strengthening the Institutional Capacity of DED



Component A
Enhancing Emergency Preparedness


Istanbul Disaster and Emergency Directorate Command Control Centers



Hasdal Command and Control Center
European Side



Akfirt Command and Control Center
Anatolian Side



Component A


Enhancing Emergency Preparedness

Equipments:

- Emergency service vehicles
- Emergency operation vehicles
- Communication vehicles
- Ambulances
- Rescue equipments
- Medical Equipments
- Containers
- Cold depots
- Mobile lighting towers
- Others

Agencies/Institutions:

- İstanbul Disaster and Emergency Directorate
- Provincial Health Directorate -UMKE
- Search and Rescue Unit
- Provincial Police Department
- Red Crescent



Component B

Seismic Risk Mitigation for Priority Public Buildings

FEASIBILITY STUDIES

Building Type	Campus	Building
Schools	796	1128
Hospitals	31	310
Outpatient clinics-health centers	82	82
Administrative buildings	32	67
Dormitories	8	37
Social service buildings	11	30
Total	960	1654

- Feasibility study of 1654 building has been completed in 960 campuses. 238 buildings in 207 campuses are being studied.

Component B
Seismic Risk Mitigation for Priority Public Buildings

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EDUCATION SECTOR

- Retrofitting and Reconstruction Works:
 - 660 schools,
 - 2.687.535 m² construction area,
 - 1.087.911 students, teachers

660 Schools = 2.7 million m² Construction site equal to the area of 540 football fields = 1.1 million students


Component B
Seismic Risk Mitigation for Priority Public Buildings

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HEALTH SECTOR

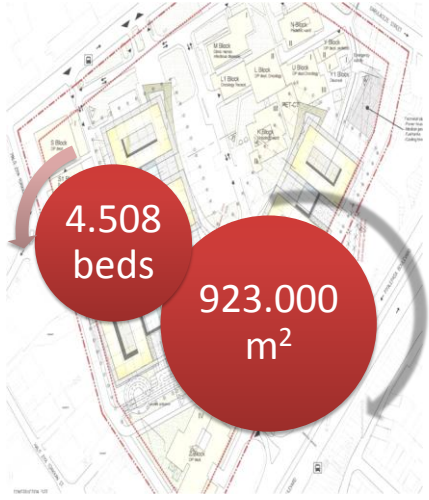
Seismic Retrofitting / Reconstruction Works

- 12 hospitals
- 49 polyclinics



ISMEP Health Investment Program

- **Umraniye** Pediatrics and Maternity Hospital
- **Kartal** Training and Research Hospital
- **Okmeydanı** Training and Research Hospital
- **Göztepe** Training and Research Hospital
- **Marmara University** Training and Research Hospital








Ümraniye PH

Construction Area: 100.000 m²
Bed capacity: 465
Budget: 63.700.000 USD

İSMEP

HEALTH INVESTMENTS

Costruction Area:
923.000 m²

Bed capacity: 4508

Total Budget:
600 Million USD




Kartal TRH

Construction Area: 286.000 m²
Bed capacity: 1003
Budget: 158.000.000 USD



Okmeydanı TRH

Construction Area: 250.000 m²
Bed capacity: 1099
Budget: 170.000.000 USD



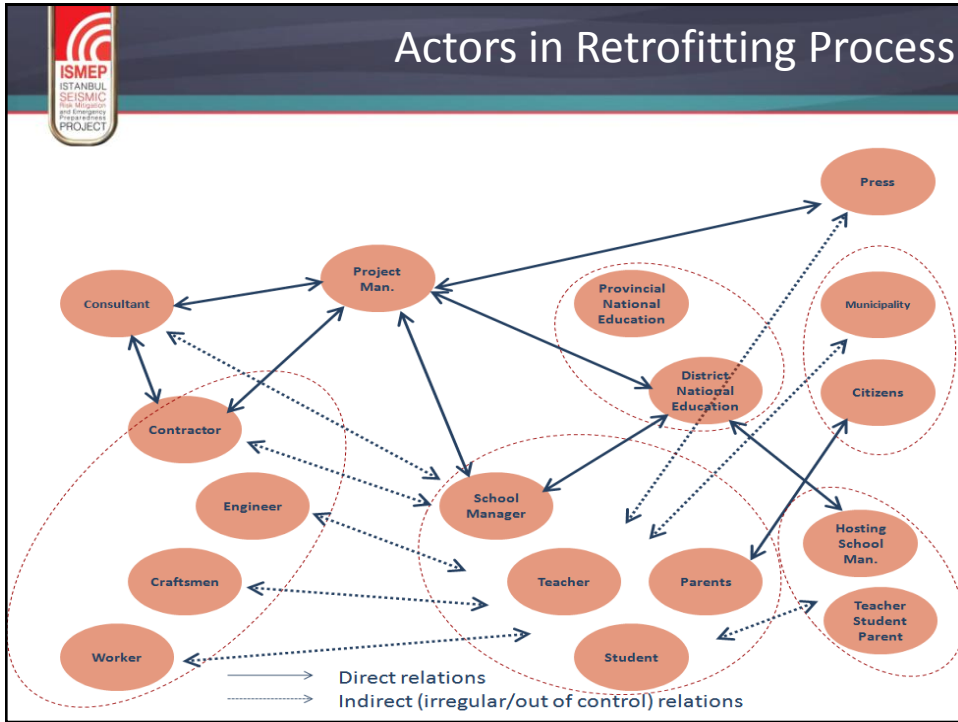
Göztepe TRH

Construction Area: 250.000 m²
Bed capacity: 1149
Budget: 170.000.000 USD




Marmara University TRH

Construction Area: 113.000 m²
Bed capacity: 720
Budget: 38.100.000,00 USD



Social Guidance and Awareness Study for Retrofitting Schools


- Teachers
- Students
- Parents
- Reached app. 250.000 people..



Public Awareness and Training

Training Programs for Disaster Preparedness

- Individual/Family Disaster Preparedness Training Program
- Disaster Preparedness Training Program for Neighborhood Disaster Volunteers
- Disaster Preparedness Training Program
- School Disaster Preparedness Training Program
- Hospital Disaster Preparedness Training Program
- Business Community Disaster Preparedness
- Survival under Extraordinary Conditions Training Program Psychological First-Aid Program Structural Awareness Training Program
- Non-Structural Risk Awareness Training Program
- Retrofitting of Public Buildings
- Awareness of Compulsory Earthquake Insurance.
- Urban Planning and Construction for Disaster Mitigation
 - Local decision makers
 - Technical staff
 - Community representatives






Public Awareness and Training




Web Site: www.guvenliyasam.org

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Public Awareness and Training



	Individual Preparedness	Community Preparedness
Before and During a Disaster & Emergency	SAFE LIFE 1	LOCAL DISASTER VOLUNTEER
After a Disaster & Emergency	SAFE LIFE 2	



2009-2012

- 70.000 Safe Life Volunteer

2015 Target

- 200.000 Safe Life Volunteer

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Component B Seismic Risk Mitigation for Priority Public Buildings

Project : Inventorization and Multi-Hazard and Earthquake Performance of the Cultural Heritage Buildings in İstanbul

Client : Republic of Turkey, Ministry of Culture and Tourism, Governorship of Istanbul, Special Provincial Administration, İstanbul Project Coordination Unit



Archeology Museum




Component B


Seismic Risk Mitigation for Priority Public Buildings

Main Objectives:

- Mitigating the seismic risks associated with the cultural and historical property (heritage) in İstanbul
- Strengthen the capacity for proactive measures in order to mitigate the damaging and devastating effects of future earthquakes on cultural and historical heritage buildings and other historical and cultural structures and assets in Turkey, such as museums and museum displays



Mecidive Kiosk

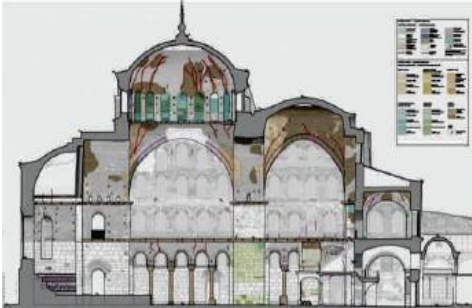


Component B


Seismic Risk Mitigation for Priority Public Buildings

Project Stages

- Literature Survey
- Field Surveys
- Vulnerability Assessment
- GIS Database
- Final Risk Assessment and The Mitigation Measures



Hagia Irene Monument existing material decays, weak zones technical drawings




Component C


Building Code Enforcement

- Training of Civil Engineers on Retrofitting Code (dated 06.03.2007 (no:26454) Official Gazette) is being implemented under the protocol signed with the Ministry of Public Works and Resettlement.

In this scope :

- Training materials were prepared.
- Training of trainers was completed.
- Training of civil engineers in selected provinces throughout Turkey has been started. By the end of April 2012, 3631 engineers were trained.





Component C

Building Code Enforcement

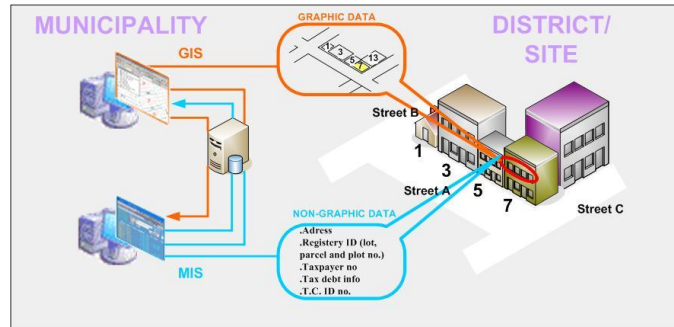
Projects in the pilot municipalities:

- Streamlining and monitoring of building and occupation permit issuance procedures in the pilot municipalities (Bağcılar ve Pendik)
- Undertaking practical and restructuring measures by re-engineering activities (Capacity building activities, software/hardware provision and integrated data management services and call center for better building code enforcement)



Project Activities for Streamlining and Enforcement of Building Permit Procedures

Data collection, updating and integration services-Digital Archive System for Documents of Development Plans




Project Benefits

- Work flows (all related applications) are integrated with web site, service desk and call center (e-municipality services)
- Citizen satisfaction (according to records of the municipalities) increased.
- Digital archive system is fully used in both municipalities. (documents can be loaded from the computer and produced documents can be uploaded automatically to archive)
- Building permits are given in digital form in both municipalities



Service Desk and Call Center
in Pendik Municipality



Phase IV: Knowledge and Experience Sharing

- **A centre of excellence in DRR**
- **Proposed Functions Of The Center**
 - Providing leadership and operational trainings on earthquake risk reduction and preparedness in areas such as;
 - Retrofitting techniques on schools and hospitals
 - Disaster management response
 - Public awareness
 - Emergency management and communications systems
 - Building code enforcement
 - Volunteer systems
 - etc.
- Sharing our own experiences as well as other good experiences from other countries
- Providing theoretical and practical training including site visits in Turkey and outside Turkey



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THANK YOU

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