İSTANBUL SEISMIC RISK MITIGATION and
EMERGENCY PREPAREDNESS PROJECT (İSMEP)

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TURKEY and NATURAL DISASTERS

EARTHQUAKES
FLOODS

TURKEY and NATURAL DISASTERS
LANDSLIDES
FOREST FIRES

TURKEY and NATURAL DISASTERS
Effect of Natural Disasters on Sustainable Development

The graph illustrates the growth in GDP over time for developed and under-developed countries. Disasters are marked by asterisks on the graph, showing the impact on GDP growth. The effect of disasters is evident in the deviations from the trend lines.
Effect of Natural Disasters on Sustainable Development

- 18,000 lives lost
- 113,000 completely destroyed, 264,000 damaged houses and work places
- 675,000 homeless people after earthquake
- 10-15 billion US$ direct economic loss
**Losses / Problems**
- Public buildings and infrastructure seriously damaged
- Sub-standard buildings and infrastructure
- Hazard ignorant development
- Lack of code enforcement
- Corrupted permitting and licensing

**First Aid & Rescue**
- Lack of organization and coordination in search & rescue activities
- Bureaucracy inhibiting efficiency and effectiveness
- Insufficient logistical support
- Voluntary efforts were not trained and organised

**Communication**
- Communication failed
- Telephone lines were out of order in first 48 hours
- Mobiles did not function

**Economic Impact**
- 10-15 billion $ as direct cost
- %5-7 of Turkey’s GNP
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

PARADIGM SHIFT in TURKEY
Prevent – Reduce Risk
First Step İSTANBUL

- The biggest city of Turkey with the population of 14.6 million,
- The highest dense city of Turkey 2.764 per./km²,
- The center of Turkey for Tourism, Trade and Industry,
- The leading city of Turkey with a %27.2 share to GDP (1.954 billion TL),
- One of the most earthquake-prone city in the World,
- Economic loss between 90 – 120 Billion US$ in case of a probable big earthquake 7.5Mw in İstanbul,
- %15 (350 thousand) of the buildings in İstanbul are under risk
Country / Region : Turkey / Istanbul

Project Duration : 2006 - 2021

Implementation : Istanbul Governorship
                Istanbul Project Coordination Unit (IPCU)

Finance : World Bank
          European Investment Bank
          Council of Europe Development Bank
          Islamic Development Bank
          German Development Bank

Loan Amount : EURO 2 Billion (WB-EIB-CEB-IDB-KfW)
is an expert unit that established under İstanbul Governorship, out of general budget, funded by International Funding Institutions, implements earthquake preparedness activities in coordination with related agencies.
"ISMEP is being implemented by the core expert team."

"Procurement Guidelines of IFI’s are being used."

"2.028 Billion Euro"
Seismic Risk Mitigation for Priority Public Buildings

Enhancing the Emergency Preparedness Capacity

Enforcement of Building Codes

- Strengthening Emergency Communication System
- Improving Emergency Management System
- Increasing Institutional Capacity of Istanbul AFAD
- Providing Equipments for the First Responder Agencies

- Retrofitting Works
- Reconstruction Works
- Studies on Historical Buildings
- Stakeholder Communication and Guidance

- Public Awareness and Training
- Training of Civil Engineers in the Seismic Retrofitting Code
- Streamlining Building Permit Processes
INSTITUTIONS

Enhancing the Emergency Preparedness Capacity

Seismic Risk Mitigation for Priority Public Buildings

Enforcement of Building Codes
Enhancing the Emergency Preparedness Capacity

Emergency Communication Network

Emergency Response Vehicles & Equipment

Command Control and Coordination Centers

Search & Rescue Certification (INSARAG)

Innovative Implementations Higher Standards
Seismic Risk Mitigation for Priority Public Buildings

Retrofitting / Reconstruction of Public Buildings

Environmentally friendly, Energy efficient, Special Design Buildings

Service Continuity Solutions

Good Planning, Fast Implementation, Effective Stakeholder Communication

Innovative Implementations Higher Standards
STREAMLINING OF BUILDING PERMITS ISSUANCE PROCEDURES

TRAINING OF CIVIL ENGINEERS IN THE SEISMIC RETROFITTING CODE

PUBLIC AWARENESS ACTIVITIES

INNOVATIVE IMPLEMENTATIONS HIGHER STANDARDS
Implemented Projects
Strengthening Emergency Management Capacity

Efficient Communication Network

Disaster and Emergency Management System
Increasing Institutional Capacity of Istanbul AFAD

2 Command Control and Communication Centers

Emergency Rescue Vehicles

Hasdal Command Control and Communication Center (European Side)

Akfirat Command Control and Communication Center (Anatolian Side)
Increasing Institutional Capacity of Istanbul AFAD
Feasibility study of 2212 building has been completed in 1382 campuses. 144 buildings in 70 campuses are being studied.

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Campus</th>
<th>Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools</td>
<td>1186</td>
<td>1715</td>
</tr>
<tr>
<td>Hospitals</td>
<td>33</td>
<td>324</td>
</tr>
<tr>
<td>Polyclinics</td>
<td>106</td>
<td>106</td>
</tr>
<tr>
<td>Administrative Buildings</td>
<td>96</td>
<td>131</td>
</tr>
<tr>
<td>Dormitories</td>
<td>16</td>
<td>47</td>
</tr>
<tr>
<td>Social Service Buildings</td>
<td>15</td>
<td>33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1452</strong></td>
<td><strong>2356</strong></td>
</tr>
</tbody>
</table>
EDUCATION
Safer schools for a better future

1,067 schools
3.8 million m² construction areas
1.5 million students and teachers
25,257 total number of classrooms
Aşık Veysel Anatolian High School, Ataşehir
Kurtköy Sezai Karakoç İmam Hatip School, Pendik
STRENGTHENED HOSPITALS for SERVICE CONTINUITY

18 Hospitals
61 Polyclinics
Ümraniye Pediatric Hospital
(100,000m² / 477 Bed Capacity)
Ümraniye Pediatric Hospital
Okmeydanı Training and Research Hospital

(259,000m² / 1,099 Bed Capacity)

• uninterrupted service during an earthquake
• green hospital (Leed Gold)
Okmeydanı Training and Research Hospital
Okmeydanı Training and Research Hospital
Kartal Training and Research Hospital
(303,000m² / 1,003 Yatak)

- uninterrupted service during an earthquake
- green hospital (Leed Gold)
Kartal Training and Research Hospital
Göztepe Training and Research Hospital
(259,000m² / 1,188 Bed Capacity)

- uninterrupted service during an earthquake
- green hospital (Leed Gold)
Göztepe Training and Research Hospital
Marmara Başibüyük Training and Research Hospital
(113,000m² / 750 Bed Capacity)

• uninterrupted service during an earthquake
Administrative - Social Service Buildings
Dormitories

54 Administrative Buildings
37 Dormitories
22 Social Service Buildings

Zeytinburnu Government Office
Pendik Government Office
Atatürk Dormitory

(110,500m² / 3,459 Students)
CULTURAL HERITAGE

INSTITUTIONS

• Prime Ministry General Directorate of Foundations

• Ministry of Culture and Tourism / Istanbul Directorate of Monuments and Surveying

IMPLEMENTATIONS

• Inventorization and Multi-Hazard and Earthquake Performance of the Cultural Heritage Buildings in Istanbul

• Retrofitting, Restoration and Restitution Projects for Three Historical Buildings

• Earthquake Risk Management Guideline for Historical Buildings

CULTURAL HERITAGE

Archeology Museum

Mecidiye Kiosk

Hagia Irene
STREAMLINING BUILDING PERMIT ISSUANCE PROCEDURES

INSTITUTIONS
• Bağcılar Municipality
• Pendik Municipality

IMPLEMENTATIONS
• Streamlining and monitoring of building and occupation permit issuance procedures
• Strengthening IT Infrastructure and developing digital archive system
• Trainings
• Building electronic document system
704
Number of personnel who had 'Safe City Safe Life' training in Bağcılar and Pendik municipalities.

A digital construction archive was created.

5 Years
The project lasted 5 years.

An electronic infrastructure was created for the website that can be used to apply for building permits and follow the processes.

Thanks to the strengthening of the IT infrastructure, they were the first municipalities to receive ISO 27001 certification in Turkey.

A call center was established to actively monitor the status of any claims, complaints or applications coming from the citizens. People's satisfaction with business processes increased by 50%.

The construction license period has dropped from 90 days to 10 days.

3.800.000
Total number of scanned and indexed documents.

An Electronic Document Management System was established to track, register and report the construction and licensing processes.
IMPLEMENTATIONS

• Training materials have been prepared in compliance with Retrofitting Code (dated 06.03.2007 Official Gazette).

• Trainings of trainers have been organized.

• By the end of April 2012, 3631 civil engineers were trained throughout Turkey.
I. Phase
Retrofitted Schools

Seminars
• School Management
• Teachers
• Parents
• Students

Information Material
“We are strengthening our future” Brochure

II. Phase
Host Schools

Seminars
• School Management
• Teachers

Information Material
“We are strengthening our future” Brochure

Reached 285.000 people
TRAINING MODULES
FOR PUBLIC
AWARENESS

First 72 Hours for The Individual and Family in an Earthquake

Non-structural Risk Mitigation Against Earthquake

Structural Retrofitting Against Earthquake

Structural Mitigation Against Earthquake

Psychological First Aid in an Earthquake

First 72 Hours for Disabled People in an Earthquake

Disaster Emergency Aid Planning for Education Institutions

Disaster Emergency Aid Planning for Healthcare Organizations

Disaster Emergency Aid Planning for Industries and Working Places

Survival Under Extraordinary Conditions

Compulsory Earthquake Insurance Awareness

Disaster Preparedness for Local Disaster Volunteers

Urban Planning and Construction for Disaster Mitigation
We are retrofitting our schools

Istanbul is one of the biggest cities in the world and our country which is located on a seismic belt. Our city's being located on such an earthquake-prone region increases the risk possibility related to earthquake and possible major accidents.

Within the scope of ISMEP Project "Informing, Awareness Raising, Social Guidance Study" is started in schools which are retrofitted against an earthquake. School management, teachers, students and parents are informed with this study and seminars, which are conducted together with the cooperation of Governorship of Istanbul and Province National Education Directorate.
Individual and Public Awareness Activities

- Retrofitting & Reconstruction Works
- 1.5 million students and teachers
- Safe Life 1
- High School & University
- E-learning Training
- Reached 3 million people
- Safe Life 2
- Local Disaster Volunteers
- 222,000
- Safe Life Kids Training
- Rocking Chair Theatre
- 278,000
- Public Awareness Campaigns
- 377,000
- Social Guidance Activities
- 325,000
- Retrofitting & Reconstruction Works
- 285,000
34 COUNTRIES – 71 CONFERENCES
WE ARE STRENGTHENING OUR FUTURE...

https://www.facebook.com/ipkbgovtr/
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https://www.youtube.com/channel/UC3tdf1Z3Li4X46e1j8Ar7AQ