1. Country and Sector Background

Turkey is highly vulnerable to natural disasters, particularly earthquakes. In the 1999 Marmara earthquakes, the death toll reached over 17,000 with a direct economic impact estimated at about US$5 billion, or around 2.5 percent of GNP. Within the nation’s high-risk context, Istanbul is most vulnerable because of its seismic-prone location on the North Anatolian Fault, and its high population and commercial/industrial densities. According to recent assessments carried out by JICA (Japan International Cooperation Agency) experts, the probability of a major earthquake affecting Istanbul in the next 30 years is 62% ± 12%, while the likelihood of such a devastation in the next decade is 32% ± 12%. This is roughly comparable to the risk faced by Los Angeles and San Francisco, but with a damage potential that is much higher because of Istanbul’s greater structural vulnerabilities. If a seismic event of the same magnitude as that in 1999 were to occur near Istanbul, the human suffering as well as the social, economic, and environmental impacts would be dramatically higher than in the Marmara region, as Istanbul is not only the financial, cultural and industrial center of the country, but is also a nexus of inter-continental importance and home of about 15 million people. An interruption of Istanbul’s social, economic and financial life would be felt for many years to come. Some sources estimate the economic impact of such a disaster would be more than US$20 billion. The JICA study estimates that an event similar to the Marmara earthquake could result in up to 87,000 fatalities, 135,000 injuries and heavy damage to 350,000 public and private buildings.

1 Japan International Cooperation Agency [JICA]: The Study on a Disaster Prevention/Mitigation Plan in Istanbul Including Seismic Microzonation in the Republic of Turkey; December 2002
The Government of Turkey is aware of the critical need to develop and to implement a comprehensive hazard risk management strategy for the country. With Bank support through the Marmara Earthquake Emergency Reconstruction (MEER) project, a risk transfer mechanism through a catastrophe insurance scheme was successfully launched, and has received a significant international recognition. The MEER project also initiated establishment of a decentralized emergency management system through creation of the Turkey Emergency Management Agency (TEMAD). Albeit after long initial delays, there has been some progress made in upgrading the newly established TEMAD to become an efficient national disaster coordination agency. In parallel to changes in the emergency management structures at the central level, considerable efforts and resources have been invested at the regional and local levels to better prepare at-risk-communities against future disasters. The Istanbul municipality in particular has demonstrated a high level of commitment and ownership in earthquake mitigation efforts, and has initiated numerous valuable seismic risk assessment and planning activities in collaboration with national and international experts, with some support from international donors.

One of the key initiatives is development of the Earthquake Masterplan for Istanbul, prepared by the Metropolitan Municipality of Istanbul. The plan is comprehensive in its treatment of risks and mitigating measures and has received international recognition as a strategic instrument for addressing seismic risks in highly vulnerable mega-cities. The proposed ISMEP project has been prepared within its framework and conceptual comprehensive approach.

The overall purpose of the initiatives described in the Masterplan is to enhance safety and total quality of life in the city by: integrating mitigation measures in city management processes, protecting natural and historical assets, reclaiming urban quality and identity, engaging local communities, rehabilitating high risk areas, and retrofitting or demolishing of unsafe buildings.

A particular area of concern for Istanbul, as for other urban areas, has been lax enforcement of building codes and development control, caused by institutional and social factors, and leading to a built environment which is poorly protected against seismic events. The basic regulatory framework for construction supervision has been amended since 2000 and provides for legal mechanisms, though often criticized, for better construction quality. The statutory responsibility for the building codes enforcement is vested with the municipalities which, however, do not have enough capacity, to successfully control the built environment. Indisputably, Istanbul municipalities have made notable efforts and advanced their land planning and management functions, nevertheless, the effective compliance and enforcement of the codes is still lacking and need to be addressed at the lower administrative level, and possibly through engaging the professional engineering community and building local awareness.

The proposed project strives to address these key systemic issues in order to have lasting impact, and would provide a financial support to achieve many of the safety objectives listed in the Earthquake Masterplan.

2. Objectives
The overall objective of the project is to transform Istanbul within the next 20-30 years into a city more resilient to major disasters. The ISMEP project will contribute to the long-term program to save lives and reduce social, economic and financial impacts in the event of future earthquakes. This is expected to be achieved through: (i) enhancing the institutional and technical capacity for disaster management and emergency response; (ii) strengthening critical public facilities, such as hospitals, schools, emergency response centers, etc., for better earthquake-resistance; and (iii) development of risk assessment methodologies for commercial, industrial and residential buildings and to enhance enforcement of building codes.

Following are the key indicators of the expected project outcome:

- Key public facilities are retrofitted to resist a major earthquake;
- Skills and technical capacities of the relevant emergency response units are strengthened;
- Improvement in compliance with building codes and land use plans.
- Methodologies for vulnerability assessment of commercial, industrial and residential buildings are developed.

In the higher level strategic context, the project contributes to the objective spelled out in Section IV of the Millennium Development Goals (MDG) Declaration which states the goal “to intensify our collective efforts to reduce the number and effects of natural and man-made disasters”.

In the most recent Country Assistance Strategy (CAS) of October 2, 2003 (Report No. 26756 TU) and covering the planned assistance program for FY04-06, one of the key development objectives for that period is to “increase disaster preparedness and minimize losses from natural disasters”.

The project-supported assistance is also aligned with the CAS program of poverty reduction, which aims at, among others, “making the economy more resilient to crises (including natural disasters) that disproportionately affect the most vulnerable”.

Moreover, the project will contribute to the governance agenda through more transparent processes for building codes enforcement. The proposed project will support activities which will increase the disaster prevention and management capacities of the government, particularly at the regional and local level of the greater Istanbul area.

The World Bank ECA region is now promoting the importance of mitigation and improvement of governments’ capacities to respond to emergencies. The underlying principle of the strategic framework, as reflected in the recently completed ECA Hazard Risk Management Strategy, is that both loss of life and economic impact of disasters can be reduced by advance planning and investment, that it is cost effective to do so, and that this is governmental responsibility. The ISMEP fully applies this proactive approach by introduction of disaster mitigation activities.

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which address long-term emergency preparedness and risk mitigation needs prior to occurrence of a possible major disaster.

3. Rationale for Bank Involvement

The Bank has established a long history of financing emergency rehabilitation projects following disasters in Turkey and other countries globally. Recently, however, more attention has been given to mitigation programs enhancing governmental capacities to respond to disasters and reduce their risk, including strengthening of organizational frameworks, emergency response management systems, risk reduction investments, insurance programs, etc. The Bank has been engaged in disaster mitigation operations in other ECA countries, including Romania, Kyrgyzstan, Poland, and Russia.

With this background, the Bank has a unique ability to focus not only on the physical, but also the economic and social aspects of hazard risk management, as well as the associated critical policy and institutional reforms. The Bank can provide effective assistance as the Government of Turkey shifts from a ‘reactive’ to a more ‘proactive’ approach to disaster management.

In Turkey, the impact of numerous efforts at the provincial and local levels to mitigate natural hazards has not yet been fully realized due to the limited scope of activities and lack of adequate funding. A comprehensive framework is still needed to integrate these activities and to strengthen Istanbul’s seismic risk mitigation and emergency preparedness, in order to enable the community to cope with the risk of an eventual seismic disaster. The Bank is well positioned to play this role through application of its expertise and financial assistance, which taken together, can leverage the already ongoing or new initiatives, and serve as a catalyst for other resources from international financial institutions and bilateral donors.

From the ultimate beneficiaries’ perspective, i.e. the residents of Istanbul, the issue of strengthening of public facilities is very important, particularly, since the Marmara earthquake. The local public administration’s capacity for a wide seismic retrofitting program is very limited. Lack of adequate, independent supervision of such projects and works, often carried out by unqualified contractors, has led people to become increasingly cautious in putting their trust in such projects. High standards and credibility of the implementing organization are instrumental for residents’ support to a seismic risk mitigation program. Involvement of the Bank, and associated transparency and quality assurance, will provide for the necessary elements to gradually build a popular trust in the risk reduction efforts, and will increase prospects for future replication of the good retrofitting practices.

4. Description

The project consists of the following components and activities:

Component A: Enhancing Emergency Preparedness
The objective of this component is to enhance the effectiveness and capacity of the provincial and municipal public safety organizations in Istanbul to prepare for, respond to and recover from significant emergencies, especially those arising from earthquakes.

Component summary:

- Improvement of emergency communications systems
- Establishment of an emergency management information system
- Support to the Governor’s Disaster Management Center
- Upgrading of emergency response capacity
- Public awareness and training

Component B: Seismic Risk Mitigation for Public Facilities

The objective of this component is to reduce the risk of future earthquake damage to critical facilities and lifelines in order to save lives and ensure their continued functioning in the event of an earthquake.

Component summary:

- Retrofitting/reconstruction of priority public facilities such as hospitals, clinics, schools, administrative buildings and infrastructure, etc.
- Risk assessment of lifelines and vital infrastructure
- Risk assessment of cultural heritage buildings

Component C: Enforcement of Building Codes

The objective of this component is to support innovative approaches to better enforcement of building codes and compliance with land use plans. The component will include the following sub-components:

- Supporting public awareness of the importance of compliance with building codes and land use plans
- Studies to support the enhancement of guidelines and regulations aiming at better enforcement of building codes and land use plans
- Initiating voluntary certification of engineering professionals in accordance with international and European standards
• Supporting selected district municipalities in enforcement of building codes and land use plans through initiatives streamlining issuance of building permits and introducing transparency measures in issuance of building and settlement permits

Component D: Project Management

The objective of this component to support project management and build sustainable capacity in the provincial and municipal government institutions to undertake such programs on a sustainable basis. This component would include:

Component summary:

• Project Management Support

5. Financing
Source: ($m.)
BORROWER 0.00
INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT 400.00
Total 400.00

6. Implementation

The proposed project is being developed in a close coordination with other international donors. It is envisaged that a parallel financing will be provided by Swiss Agency for Development and Cooperation (SDC) for a support to voluntary neighborhood emergency response groups, which complement activities under sub-component A.4 (Public Awareness and Training).

Project implementation would be placed under the responsibility of the Governor of Istanbul. A small Istanbul Project Coordination Unit (IPCU) would be established under the Governor’s Office. The Unit would be headed by a highly qualified project director who will report directly to the Governor (or Vice Governor). Each relevant agency (such as health, education, public works, etc.) will nominate a senior staff to be the liaison between the IPCU and their mother agency.

The IPCU will be responsible for project coordination, procurement, financial management, contract management, monitoring, evaluation and reporting. The IPCU will include, in addition to the Director, 2 procurement officers, 2 financial management officers, 5 engineers, and a monitoring and reporting officer.

The Disaster Management Center under the Governor office will implement component A. The center is chaired by the Vice Governor who is responsible for disasters affairs, and includes staff seconded from various agencies. Since several aspects of disasters response is the responsibility
of the municipal government, the implementation of this component will be closely coordinated with the greater municipality of Istanbul and TEMAD to ensure that the systems developed under this component are compatible with the national, regional and those systems operated by the greater municipality of Istanbul.

Some staff from the existing PIU under the Prime Ministry Office (implementing, among others, the MEER project) will be transferred to the IPCU and their contract will be transferred to the IPCU once the ISMEP project become effective.

A Project Steering Committee would be established to oversee project implementation. The Steering Committee would be chaired by the Governor of Istanbul (or Vice Governor), and include the directors of the provincial departments of the concerned ministries, the Deputy Secretary General of Istanbul Municipality, Treasury and SPO representatives, TEMAD, and the Director of the PIU under the Prime Ministry Office.

7. Sustainability

Institutional sustainability. The commitment to the project objectives, a good indicator of its sustainability, is shown by already carried out activities which were initiated and financed from own sources by the Turkish counterparts. Development of the Master Plan, the investments made into command centers for the coordination of post disaster actions, and technical studies constitute vital steps towards broadly based improvements in the capacity to mitigate the effects of earthquakes and other disasters. The Borrower ownership has been made clear during project preparation, where responsible entities have worked together to support the project and provide all necessary counterpart inputs with great efficiency. The prime example of this cooperation has been the prioritization process for the public facilities to be selected for retrofitting, involving many public institutional owners.

Focusing on one city, such as Istanbul, is consistent with the decentralization activities proceeded by the Turkish government and lawmakers. This decentralization agenda is in progress and will gradually give more responsibilities, including those related to emergency preparedness and disaster mitigation, to lower levels of the government.

Technical sustainability. The maintenance of the seismically strengthened structures in the time beyond the project implementation period will follow normal procedures used for buildings. The long-term sustainability of the emergency communication and information system, as well as the response equipment is dependent upon two factors: continuing budgetary support from the municipal and provincial governments to maintain the systems and equipment. Given the level of commitment demonstrated by the lead agencies in the Istanbul region to emergency preparedness, and the fact that the communications and emergency response systems and equipment will be used on a day-to-day basis, there is every reason to believe that the initiatives undertaken under the project will continue to be supported.

8. Lessons Learned from Past Operations in the Country/Sector
The Marmara earthquake, with the resulting damages, low effectiveness of response, the recovery efforts, and the following Bank MEER project, provided the key lessons based on which the ISMEP project was designed.

The earthquake of August 17, 1999 created a crisis in emergency management which exposed the weaknesses of existing disaster response systems, as well as the poor quality of construction deriving from a lack of building codes enforcement and inadequate land use practices. Communication systems linking the affected municipalities with outside agencies and organizations collapsed. Essential emergency response resources were often destroyed or severely damaged. The Turkish disaster response was unable to meet the demands created by the Marmara earthquake. Immediately after the catastrophe, some critical elements of the national infrastructure failed. This included damage to the main fiber optic cable between Istanbul and Ankara, the link which formed a backbone of the communication with the earthquake region. The disaster virtually incapacitated local response capabilities of the affected provinces. Basic repairs to the communication and electric power connections took over 60 hours. By this time, critical rescue opportunities were lost and the response effort was in disarray.

The MEER project prepared in the aftermath of the Marmara earthquake strived to tackle the above problems and strengthen the emergency management and response system through creation of a national, comprehensive emergency management structure for Turkey (TEMAD) that would focus on the coordination and integration of risk reduction strategies, preparedness, response and recovery. The restructuring of the national emergency management system is gradually progressing through a range of activities designed for institutional strengthening of TEMAD. Though the national coordination is of key importance, the focus should now also be given to a lower, sub-national level of the government, and to the region bearing the highest risk in terms of disaster probability, and importance and impact on the whole country.

The design of ISMEP project takes into account international experience which demonstrates that reducing life loss and minimizing property damage in the immediate aftermath of major earthquakes is most effectively achieved by what is done by agencies, authorities and resources and individual residents in the affected area. Outside assistance is essential when local capacity is exceeded as a result of the scale of the event, but, ultimately, all disasters are local. Emergencies occur in specific communities and the most fundamental effectiveness of any emergency management system depends upon the ability, organization, skills, and commitment of a community – its government officials, private industry, NGOs and residents -- to prepare for emergency situations. These efforts should be locally based and managed, but they must be consistent with the national and provincial systems, standards and programs. Building local capacity, therefore, is the most effective strategy for improving emergency preparedness.

Enhancement of emergency management capacity and mitigation of risk to the essential disaster response public structures is at the heart of the ISMEP project design, which promotes a decentralized approach to implementation of the risk reduction efforts and strengthening the regional institutions, which already showed a notable initiative since the Marmara earthquake to prepare for future disasters.
ISMEP strives to improve the building code enforcement practices through activities to be implemented at the municipal level. Given the already introduced amendments to the legal framework and further discussions and work the relevant legislation, the ISMEP takes a route of designing a road map with monitorable actions to be taken by municipalities who commit themselves to a better compliance to the building code enforcement.

9. Safeguard Policies (including public consultation)

<table>
<thead>
<tr>
<th>Safeguard Policies Triggered by the Project</th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td><strong>Environmental Assessment</strong> (<strong>OP/BP/GP 4.01</strong>)</td>
<td>[x]</td>
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<tr>
<td>Natural Habitats (<strong>OP/BP 4.04</strong>)</td>
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<td>Pest Management (<strong>OP 4.09</strong>)</td>
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<tr>
<td>Cultural Property (<strong>OPN 11.03</strong>, being revised as <strong>OP 4.11</strong>)</td>
<td>[x]</td>
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<tr>
<td>Involuntary Resettlement (<strong>OP/BP 4.12</strong>)</td>
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<td>[x]</td>
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<tr>
<td>Indigenous Peoples (<strong>OD 4.20</strong>, being revised as <strong>OP 4.10</strong>)</td>
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<td>[x]</td>
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<tr>
<td>Forests (<strong>OP/BP 4.36</strong>)</td>
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<td>Safety of Dams (<strong>OP/BP 4.37</strong>)</td>
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<td>[x]</td>
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<tr>
<td>Projects in Disputed Areas (<strong>OP/BP/GP 7.60</strong>)*</td>
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<td>[x]</td>
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<tr>
<td>Projects on International Waterways (<strong>OP/BP/GP 7.50</strong>)</td>
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**Involuntary Resettlement.** The project will not entail land acquisition or resettlement, as the retrofitting or reconstruction will take place on existing sites. Each feasibility study for retrofitting will include a social mitigation plan to deal with temporary impacts of the work on operation of the facility and access of clients and the public to the services offered in the facility.

**Cultural Property.** The safeguard policy on the Cultural Property is considered triggered since retrofitting (and if needed replacement) in Istanbul has a reasonable likelihood or affecting either (i) listed cultural heritage sites, (ii) be in close proximity to such sites, and/or (iii) be located in a district under protection. The Bank has in the past reviewed the Turkish regulations concerning interventions with regard to cultural property. The EMP includes an updated review of current regulations and practice, and incorporates the appropriate mitigation planning.

**Environmental Assessment.** During the preparation, a pool of buildings that meet agreed criteria will be established, however, all specific buildings to be strengthened will not be identified until project implementation. Therefore, a range of potential environmental impacts have been assessed and a generic EMP developed based on the potential interventions and environmental impacts. The EMP includes the mitigation plan, i.e. measures to be taken to control potential impacts, monitoring plan, and responsible party for the mitigation actions. As part of the formulation of the EMP, the environmental protection regulatory framework was analyzed and institutional arrangements for environmental management clearly specified. The framework EMP for the project will be publicly disclosed prior to the appraisal.

10. List of Factual Technical Documents

*By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*
“Study on Disaster Prevention/Mitigation Basic Plan in Istanbul including Seismic Microzonation in the Republic of Turkey”; Japan International Cooperation Agency (JICA), Istanbul Metropolitan Municipality (IMM) December 2002;

“Earthquake Masterplan for Istanbul”; developed for: Metropolitan Municipality of Istanbul, Planning and Construction Directorate, Geotechnical and Earthquake Investigation Department; by Boğaziçi University, Istanbul Technical University, Middle East Technical University, Yıldız Technical University; Istanbul July 7, 2003 [English Version]

“Observations on Earthquake Risk and Engineering Practices in Istanbul, Turkey”; Peter Yanev; November 2004

“Assessment of Stakeholders Approach to Seismic Vulnerability and Housing Stock Strengthening In Istanbul”; Deniz Baharoglu; October 2003

“Assessments of Design and Preparation of the ISMEP Project. Final Report”; Pacific Consultants International; December 2004

“Study on Building Codes Enforcement in Turkey”; PROTA; February 2005

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