

評価調査結果要約表（英文）

I. Outline of the Project	
Country : Islamic Republic of Iran	
Project title : Project on the Establishment of Emergency Response Plan for the First 72 Hours after an Earthquake	
Issue/Sector : Disaster Management	
Cooperation scheme : Technical Cooperation	
Division in charge : Global Environmental Department	
Total cost (at evaluation) : about 330million yen	
Period of Cooperation	(R/D) : October 2006 – March 2010
	Partner Country's Implementing Organization : Tehran Disaster Mitigation and Management Organization (TDMMO)
Supporting Organization in Japan : Oriental Consultants Co., Ltd., OYO International Corporation	
Related Cooperation : 'The Study on Seismic Micro-zoning of the Greater Tehran Area in the Islamic Republic of Iran'(1998-2000), 'The Comprehensive Master Plan Study on Urban Seismic Disaster Prevention and Management for the Greater Tehran Area in the Islamic Republic of Iran'(2002-2004)	
1. Background of the Project	
<p>Iran is situated on part of the Alp-Himalaya orogenic belt and is known to be part of the youngest and last orogenic regions of the world. The capital city of Tehran is located in the one of the world's most active seismic belts and has sustained repeated substantial damages due to high magnitude earthquake activities happening in some 150 year cycle. Already 170 years have passed since the last one in 1830. It is feared that a major earthquake in Tehran, a megalopolis of over 8 million inhabitants, situated on among active faults, could well lead to considerable loss of life at some 380,000 in the worst case scenario and substantial financial damages particularly due to rapid urbanization started in the 1950s.</p> <p>In response to the request from the Government of Iran (GOI), Japan International Cooperation Agency (JICA) conducted 'The Study on Seismic Micro-zoning of the Greater Tehran Area in the Islamic Republic of Iran' between 1998 and 2000. The Study concluded that a severe earthquake could cause Tehran approximately 380,000 casualties in the worst case scenario. Considering this damage estimation, the GOI then requested JICA to implement 'The Comprehensive Master Plan Study on Urban Seismic Disaster Prevention and Management for the Greater Tehran Area in the Islamic Republic of Iran' in order to formulate a systematic seismic disaster management plan between August 2002 and August 2004.</p> <p>Tehran Disaster Mitigation and Management Centre (TDMMC) was established in May 2003 by integrating the Centre for Earthquake and Environmental Studies of Tehran (CEST) and the Tehran Comprehensive Emergency Management Secretariat (SEMS). TDMMC was later reformed to the Tehran Disaster Mitigation and Management Organization (TDMMO) in 2004 whose tasks were to (1)improve level of safety and to reduce risks in Tehran through coordination, research, training programs and executive measures prior to occurrence of disasters; (2) perform measures and necessary coordination to increase efficiency of disaster management system in Tehran and in related organizations at the time of disasters for implementation of rescue and relief operations and also decrease of damages and human and property losses; and, (3) coordinate and perform emergency response with related organizations at the time of disasters. TDMMO had developed an emergency response plan covering 20 priority areas. This plan has overall framework but was found to lack details for full implementation. The Project was proposed by the GOI to improving emergency response capacity in Tehran. JICA dispatched a preparatory study team from April to May 2006. In August 2006, the Record of Discussions on the Project on the Establishment of Emergency Response Plan for the First 72 Hours after an Earthquake was signed.</p> <p>The Project was commenced with a preparation stage to collect necessary information for detailing out the Project framework and formulate PDM and PO for four months between November 2006 and March 2007. As a result of the study and discussion with TDMMO, PDM 1 Version 1 and PO 1 were endorsed on March 7, 2007. Subsequently the Stage II of the Project was commenced in July 2007 and will be terminated in March 2010.</p>	

Implementation of activities for Output 1 'Emergency response command system is improved' was initially postponed due to on-going discussions on the government's decree on disaster management in Iran. As clarifications of roles and responsibilities of TDMMO were deemed necessary for effective implementation of activities of Output1, the Project had to postpone its implementation. In the meantime TDMMO has taken steps to undertake activities pertaining to Output 1. JICA dispatched a Monitoring Study Team in February 2008 to discuss issues. In the Minutes of Meetings signed on 12th February 2008, it was agreed that TDMMO would be responsible for implementation of Output 1 and Japanese experts would continue to provide technical inputs where TDMMO finds necessary. No modification was made on PDM1 Version 2. JICA dispatched the Mid-Term Review Mission in November 2008 and reactivation of the Output 1 was proposed. The detail plan of activities for Output 1 was then agreed upon in February 2009 and subsequently a new PDM2 was approved.

II. Project Overview

(1) **Overall Goal:** Capacity for emergency response for the first 72 hours after an earthquake in Tehran is continually improved.

(2) **Project Purpose:** The emergency response plan and capacity for the priority activities for the first 72 hours after an earthquake in Tehran are improved.

(3) **Outputs:**

0. PDM and PO for Stage II is established

1. Emergency response command system is improved.

2. Quick Damage and Loss Estimation (QD&LE) system is developed and operated.

3. Emergency evacuation plan and capacity are improved.

(4) **Inputs**

Japanese side :

Short-term Expert 14 (64.6 person-months) **Equipment** 27,632 Thousand Yen

Trainees received 10 **Local cost** 16,578 Thousand Yen

Iranian Side :

Counterpart 21 **Local Cost US\$** 2.1 million

Land and Facilities: Office space and equipment for QD&LE system

Members of Evaluation Team

- a. Mr. Kazuo Sudo, Mission Leader
Senior Advisor, Japan International Cooperation Agency
- b. Ms. Mamiko Tanaka, Evaluation Planning
Program Officer, Disaster Management Division 1, Water Resources and Disaster Management Group, Global Environment Department, JICA
- c. Mr. Akira Hayakawa, Cooperation Planning r
Associate Expert, Disaster Management Division 2, Water Resources and Disaster Management Group, Global Environment Department, JICA
- d. Yoshie Yamamoto, Evaluation Analysis
Consultant , Global Link Management Co., Ltd

Period of Evaluation

14th January – 1st February 2010

Type of Evaluation : Terminal

III. Results of Evaluation

1. Summary of Evaluation Results

(1) **Relevance**

The Project's relevance is excellent vis-à-vis the needs of Iran and the JICA's Country Assistance Program. Project's target issues and areas are in line with such high political priority of the Municipality of Tehran. Moreover, the Project responds to the needs of the intended target group, TDMMO staff members and district disaster management officers in 22 districts of Tehran. Having utmost use of the technologies and expertise of Japan in the areas of emergency responses and evacuations that are widely acknowledged as one of the most advanced in the world, technical relevance was also found high. Overall, relevance is found very high.

(2) **Effectiveness**

Effectiveness of the Project was found to be good. The Project Purpose "The emergency response plan and capacity for the priority activities for the first 72 hours after an earthquake in Tehran are improved" has been achieved to a good extent verified with sound achievement levels of outputs, and of Output 3 in particular.

(3) Efficiency

Overall, the level of efficiency of the Project was found to be good with regards to its input and the current achievement level of Outputs. While the Team acknowledged the efforts of TDMMO to assign skilled professionals for the Project, relatively high turn-over of skilled and motivated counterparts was witnessed. Assignment's duration and combination of expertise of Japanese experts need to be further clarified and coordinated in order to improve efficiency.

(4) Impact

The impact of the Project to the Overall Goal was confirmed excellent. The Team recognized that the Project has substantive direct and indirect impacts on continuous improvement of capacity for emergency response for the first 72 hours after an earthquake in Tehran. All the four indicators to measure the achievement level of the Overall Goal are highly likely to be achieved.

(5) Sustainability

Overall sustainability was found generally high but needs to be further strengthened particularly on institutional and technical fronts. TDMMO is expected to continue working on development of emergency response plans, ERCC guidelines, ERCS and etc to fulfill its mandate and to sustain the Project's outcomes.

2. Factors that promoted realization of effects

(1) Factors concerning to Planning

Dispatch of the Japanese Experts who have appropriate technical knowledge, skills and experiences from previous involvement in the Master Plan Study and had already established working relationships with counterparts at TDMMO.

(2) Factors concerning to the Implementation Process

(a) Strong leadership at the level of the President; (b) Ample budget allocation; (c) Both the Project Director and the Project Manager being specialists of seismology related fields; (d) Recruitment and assign of counterparts with specific skill sets required for the Project implementation; (e) High level of commitment and willingness among the Iran counterparts to learn new technical skills; (f) High regards for Japanese technologies on disaster management ; and (g) Provision of equipment necessary to establish seismometers networks with special specifications for Tehran.

3. Factors that impeded realization of effects

(1) Factors concerning to Planning

Implementation of activities for Output 1 'Emergency response command system is improved' was initially postponed due to on-going discussions on the government's decree on disaster management in Iran. As clarifications of roles and responsibilities of TDMMO were deemed necessary for effective implementation of activities of Output1, the Project had to postpone its implementation. Even then neither a PDM nor a Plan of Operation was revised accordingly. While the Output 1 was reactivated in February 2009 and the PDM2 was agreed upon in March 2009, its implementation was primarily in the hands of TDMMO and the roles expected from the Japanese side was limited to provision of reference materials and counterpart training in Japan.

(2) Factors concerning to the Implementation Process

Presence of the Project Manager at the TDMMO was limited to thrice-a-week.

4. Conclusion

The Project has achieved its Project Purpose to a good degree. Most activities have been implemented as described in PDM2 and most of quantitative and qualitative performance indicators are being achieved. However, several activities need yet to be continued to gain higher outcome till the end of the Project in March 2010.

The Project's relevance in the overall context of disaster management and emergency response is high as the TDMMO remains to be the organization mandated to plan, implement and supervise emergency responses for Tehran at the time of earthquake. Due to the outstanding ownership of the Project by the Iranian side, the Project's sustainability is good. On the other hand, its effectiveness and efficiency may have been enhanced further if the Project's design and strategies had been more carefully considered by both sides during the planning and implementation stages. It should be noted that progress needs to be further made for Output 1 to establish emergency response command systems at TDMMO. Given the evaluation results on the Project, the Project should be terminated in March 2010 as planned.

5. Recommendations

Recommendations on what need to be addressed both by the Project end and the Project Completion are as follows:

(1) Completion of the operational framework and procedures of emergency response command of ERCC

As the roles and responsibilities for different organizations are defined in the emergency response plan of Tehran and other related laws, the operational framework and procedures of emergency response command should be shared and understood by those organizations more effectively in order to secure the speedy emergency responses of TDMMO and other related organizations.

(2) Improving collaboration and communication among TDMMO and other concerned organizations

At the occurrence of an earthquake, close collaboration and communication among various organizations of both the government and non-government organizations is crucial to quickly and properly respond to the situation. Information and directives of ERCC should be quickly transmitted to respective districts and organizations concerned, and organized rescue and relief operations be properly conducted. Therefore, collaboration and communication among TDMMO and other concerned organizations for emergency responses after an earthquake should be further strengthened.

(3) Continued efforts to further upgrade the QD&LE data

The precision and quality of output data of the QD&LE system depend on those of input data, which ought to be updated from time to time. Some input data such as ones on buildings and on ground model are yet to be collected and fed into the system to upgrade damage and casualty estimation. Those services are entrusted to IIEES on contract. Continued efforts to further upgrade the QD&LE data should be made.

(4) Additional measures to secure an alternative system for seismic data transmission to ERCC

Seismic data are currently transmitted to ERCC through telephone lines. However, there is a high possibility that telephone lines are cut off at an occurrence of a high magnitude of earthquake. Therefore alternative measures to transmit seismic data to ERCC without intermission such as through radio or satellite should be taken at the earliest possible time.

(5) Maintenance and upgrade of seismometer networks and the QD&LE software

There are currently ten (10) seismometers installed around the Tehran Municipality. Needless to say, the QD&LE system should be properly maintained to secure its stable functions and to quickly take necessary measures for rescue and relief operations. It is planned that more seismometers will be installed in the Municipality to get more data from more than 50 locations. Since consulting and maintenance services for seismometer networks and the QD&LE software are outsourced on contract, the next contract need to be concluded as soon as possible.