



## PREFACE

The dry and barren plateau dominates most of Iran that lies in southwestern Asia. The plateau, lying at height of 900 to 1,500 m above the sea level, has a continental climate, with cold winters and hot summers. An intense earthquake occurred in western Iran, about 225 km west of Tehran at 7:28 local time, June 22, 2002. Though the moderate moment magnitude of 6.4(ERI, University of Tokyo) – 6.5 (USGS) calculated for this earthquake was not surprisingly large as contrasted with those major earthquakes that ever occurred in this country, seriously ravaged villages were found along east-west oriented valley in the west of Abegarm, and 261 people were reportedly killed and 1,300 injured.

On July 5, Japan Society of Civil Engineers (JSCE) decided that it would dispatch an investigation team to Iran. Though JSCE covers a quite vast area of interest, the reconnaissance team, which was a small party of 7 experts had little chance to cover up every specialty of civil engineering during their short stay (July 22-July 31) in Iran. The preliminary strategy of JSCE team was thus to make a first reconnaissance laying stress on the damage to dwellings etc, to describe the damage in terms of the location with respect to the activated fault, and to discuss with Iranian specialists about possible future collaborations lucrative for both Iranian and Japanese sides.

The team was divided into two groups, Group A, (Prof. Miyajima, vice leader, Prof. Taniguchi and Mr. Abdolhossein FALLAHI), was fully briefed on the entire scope of the earthquake-related damage by Dr. Reza Alaghebandian, Earthquake Engineering Research Center, Tehran University. Dr. Rahimian, Vice-Chancellor of Tehran University, together with Dr. Alaghebandian, Dr. Assadolah Noorzad, and Dr. Abbas Ghalandarzadeh, kindly made every arrangement for the team's reconnaissance trip, coordinating the schedules of specialists and officials in charge in such authorities as the Ministry of Interior Affairs, Center of Earthquake & Environmental Studies of Tehran (CEST), etc. Group A members covered both ground tremors and risk management issues, while Group B, (Prof. Konagai, Dr. Azuma, Prof. Goto and Mr. Amir Sadr) investigated a rockslide near Changureh, a liquefied area west off Hesar, and the activated fault trace extending several kilo meters across mountains spreading east of Abdarreh. With necessary pieces of information provided, JSCE team members could investigate efficiently the areas affected by the earthquake.

Prof. Konagai, the leader of the team, paid a courtesy visit to CEST on July 30, Tuesday, for making a brief report of the survey, and discussed with Mr. Rasool Zargar, Counsellor of Tehran Mayor in Disaster Management, and Mr. A.A. Moinfar, executive advisor of CEST, which points of this earthquake were to be emphasized for enhancing robustness of the urban systems in Tehran.

The faculty members of the Department of Civil Engineering, University of Tehran, kindly took all the trouble of coordinating assemblies of Iranian specialists for discussing with the JSCE team members the findings that the JSCE team members obtained through their reconnaissance. The assembly was held at the Auditorium, Department of Civil Engineering, Tehran University, on July 31. Mr. Moinfar and Mr. Ahmad Naderzadeh, Senior Researcher and the Head of CEST joined the discussion.

This report outlines the findings obtained through the reconnaissance. Some descriptions in this report are not fully evidenced yet, and therefore, some comments are not yet the conclusions reached after a thorough discussions among the members. However, providing both Japan and Iranian specialists and persons in charge with a rough-an-ready overview will be important for taking measures for the disaster relief and precautions against possible secondary disasters.

All the members of the JSCE Reconnaissance Team are much indebted and thankful to the people at Changureh and Abdarreh for their helps despite the fact that many of them lost their families in the

rubble. All the team members would like to express hereby their sincere sympathy to the people affected by the devastating earthquake. The members are also grateful to many experts from Tehran University and CEST for their valuable suggestions and numerous discussions during the survey. They wish to further collaborate with Iranian specialists for possible countermeasures, e.g., reconstruction of damaged structures, retrofitting of existing structures and reducing earthquake hazards.



Kazuo KONAGAI, Team Leader  
Aug. 3, 2002



**Courtesy visit to executive members at CEST:**

From the left: Mr. Mohsen Ebrahimi, Dr. Reza Alaghebandian, Dr. Ali Noorzad, Dr. Assadolah Noorzad, Mr. A.A. Moinfar, Mr. Rasool Zargar, Dr. Kazuo Konagai, Dr. Abbas Galandarzadeh, and Dr. Siamak Khoshdel Hooshiar

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## RECONNAISSANCE TRIP RECORD

	<b>Leader</b>	<b>Group A</b>	<b>Group B</b>
<b>July 22</b>		Arrive at Tehran	
<b>July 23</b>		Courtesy visit to the Japanese Embassy, Tehran.  Briefing at Tehran University  Leave for the affected area	
<b>July 24</b>		Field survey Abdarreh/Changureh	
<b>July 25</b>	Arrive at Tehran	Field survey Abdarreh/Changureh	Arrive at Tehran
<b>July 26</b>	Visit to the Milad Tower  Leave for the affected area	Field survey Abdarreh/Changureh	Visit to the Milad Tower  Leave for the affected area
<b>July 27</b>	Field survey Hesar/Abdarreh/Changureh		Field survey Hesar/Abdarreh/Changureh
<b>July 28</b>	Field survey Abdarreh/Changureh/Hesar	Leave Tehran	Field survey Abdarreh/Changureh/Hesar
<b>July 29</b>	Field survey Hesar/Abdarreh/Changureh		Field survey Hesar/Abdarreh
<b>July 30</b>	Courtesy visit to CEST		Field survey Abdarreh
<b>July 31</b>	Brief report and discussion at the Tehran University  Leave Tehran		Brief report and discussion at the Tehran University  Leave Tehran

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(not available now)