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The Aftermath of Disaster: Floods, Earthquakes, and the Fires of September 11

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The Preservation and Use of Materials connected to Earthquake Disasters at The Great Hanshin-Awaji Earthquake Memorial Disaster Reduction and Human Renovation Institution (DRI)

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Introduction

A massive vertical-thrust earthquake, registering the highest level of 7 on the Japanese scale of intensity and originating in northern Awaji Island in Hyogo Prefecture, occurred at 5:46 in the morning on 17th January, 1995, and is referred to as “The Great Hanshin-Awaji Earthquake”.

The Disaster Reduction and Human Renovation Institution (DRI) was established in 2002 to pass on to future generations the experiences and lessons of the Great Hanshin-Awaji Earthquake. Highlighting the preciousness of human life and the importance of international cooperation in combating such disasters in the future are the Institute’s main objectives and, to this end, some 160,000 documents and materials regarding earthquake are preserved and exhibited.

Next year it will be 10 years since the earthquake. To mark the occasion, we are undertaking a project using Geographical Information System, called “The Story of Our Recovery from the Great Hanshi-Awaji Earthquake”.

1. General Data of the Great Hanshin-Awaji Earthquake

This massive vertical-thrust earthquake, registering the highest level of 7 on the Japanese scale of intensity and originating in northern Awaji Island in Hyogo Prefecture, instantly took away many precious lives and destroyed much urban infrastructure. Houses and buildings collapsed and fires broke out in many places. The result was catastrophic with more than 6,400 people left dead or missing.

Road and railway networks were torn apart, with the collapse of bridge girders supporting the Hanshin Expressway, the main artery connecting Osaka and Kobe, as well as those of the JR Sanyo Shinkansen. Harbor facilities were also seriously damaged. The total damage reached approximately 10 trillion yen. About 320,000 people lost their homes and took refuge in parks and schools, shivering in the winter’s cold and fearful of aftershocks. To make matters worse, supplies of electricity, gas, and water were cut off, and telephone communications were interrupted over a vast region, forcing people in the affected areas to live in very difficult conditions and to have to endure the lack of both food and water.

Time of Earthquake: 5:46 a.m., Tuesday, January 17th, 1995

The epicenter: the northern part of Awaji Island, Hyogo Prefecture, situated at N34.36 E135.02

The depth of epicenter: 16 kilometers below the earth's surface (10miles)

Seismic magnitude on the Richter scale: 7.3

Damage Caused by the Earthquake (as of December 25th, 2003)

Dead	6,433 persons	non	Public works facilities	865 units
Missing	3 persons	houses	Other public facilities	3,983 units
Injured	Serious injury	10,683 persons	Educational Facilities affected	941
	Slight injury	33,109 persons	Roads	Affected in 10,069 places
	Total	43,792 persons	Bridges	Affected in 320 places

Houses damaged	Fully collapsed	104,90 6 units	Rivers	Affected in 430 places
		186,17 household 5 ds	Land slides	378
	Half collapsed	144,27 4 units	Concrete walls collapsed	1,480
		274,18 household 2 ds	Households left without drinking water	Approximately 1.3 million
	Partially collapsed	263,70 2 units	Households left without Gas	Approximately 860,000
	Total	512,88 2 units	Households left without Electricity	Approximately 2.6 million
			Telephone networks disrupted	More than 30

2. Outline of The Disaster Reduction and Human Renovation Institution(DRI)

The Institution was established to pass on to future generations the experiences and lessons of the Great Hanshin-Awaji Earthquake, and to highlight the preciousness of human life and the importance of international cooperation in combating such disasters. The Institute also hopes to contribute to the reduction of damage caused by any future disasters in Japan and around the world. The Institute was completed with the unveiling of Human Renovation Museum in April 2003, following the earlier opening of the Disaster Reduction Museum in April 2002. Every year approximately 500,000 people visit the Institute from both inside and outside Japan.

The Disaster Reduction Museum shows the quake-hit areas immediately after the earthquake and tells of the subsequent process of recovery and reconstruction through a powerful series of images and by means of materials provided by quake victims themselves.

The Human Renovation Museum serves as a place to further appreciate through visual experiences and communication with instructors the valuable lessons of the earthquake, and to reflect upon the preciousness of human life and the importance of people living and working together.

■Location: Kobe New Eastern City Center
 (Wakinohamakaigan-dori, Chuo-ku, Kobe)

■Facility functions

- 1) Collection, storage and exhibition of materials related to the Great Hanshin-Awaji Earthquake, in order to highlight the preciousness of human life
- 2) Dispatch of disaster management specialists and the practical training of experts
- 3) Comprehensive research and studies with emphasis placed on the practical aspects of disaster management measures
- 4) Exchanges and networking with disaster management organizations both in Japan and overseas

3. Collecting, Storing and Preserving Materials Provided by Quake Victims

In October, 1995 the 21st Hyogo Project Association started collecting documents and materials in connection with the Great Hanshin-Awaji Earthquake in order to pass on to future generations the experiences and lessons of the

earthquake.

In April, 1998 The Great Hanshin-Awaji Memorial Research Institute took over the collection enterprise and considered how these materials should be made available to the public.

Then, from June, 2000, Hyogo Prefecture committed itself to carrying out over a two year period a wide-ranging and systematic collection of materials provided by quake victims. About 450 investigators visited NPO, community organizations, businesses, schools, people in emergency housing and so on and collected items used by them at evacuation shelters together with leaflets, papers, photographs, notebooks, and personal diaries related to the earthquake. More than 160,000 items of 'raw data' were collected in this way.

These materials were able to be exhibited when the Institute opened in April, 2002. The 160,000 materials collected have been classified into 4 categories: paper, solid objects, photographs and audio-visual items. The paper materials include diaries written at emergency shelters, objects include clocks which stopped at 5:46 a.m.(the time the earthquake occurred); photographs are of the damage caused by the earthquake and of the subsequent restoration process, and there are audio-visual materials including home video footage.

Catalogue of Contents (as of May, 2004)

Stored Items	Paper	155,825
	Solid Objects	1,076
	Photographs	4,195
	Audio-Visual	893
	Total	162,709

Some of these materials are displayed in the exhibition rooms. The rest are kept in the archives room at a fixed temperature and humidity. An electronic database has been created for these materials and three computer terminals are available in the library to allow the visitors who have applied to do so to inspect our complete list of contents. Earthquake victims, researchers, elementary, junior and high school students, together with university students are among those who visit the library for the purpose of research.

However, all of the 160000 materials cannot be made available to the public at the present time, because of concerns over sensitive, personal information contained within some of the collected materials. Consequently a review panel was appointed in March this year with experts in such fields as law, mass media and so on, charged with the task of setting the criteria by which these materials may be made available to the public. In this way, we hope to make available to the public as many of the collected items as possible and put them to the best possible use.

4. "The Story of Our Recovery from the Great Hanshin-Awaji Earthquake"

Next year, to mark the tenth anniversary of the earthquake, we are going to make use of a Geographical Information Systems(GIS) to allow citizens to register photographs or audio-visual materials of the earthquake through our web-site, and to input a record of their experiences on a map.

Moreover, the condition of Flower Road, which is the most well-known street in Kobe, is shown before and immediately after the earthquake and then how it is today, by means of three-dimensional computer graphics. The items stored at the Institute will also be registered on the GIS.

We feel it is important that every citizen be made aware of the path taken for recovery, and that we retain memories of the earthquake for the future, and share experiences and lessons learned from the disaster in the Hanshin-Awaji area.

This enterprise will be carried out as joint venture with The Earthquake Disaster Mitigation Research Center (EDM) and The National Research Institute for Earth Science and Disaster Prevention (NIED), which has also been selected by The Ministry of Land, Infrastructure and Transport for other GIS project. The results will be shown at The United Nations Conference for Disaster Prevention and Mitigation which will be held from 18th until 22nd, January, 2005 in Kobe.

Finally, as a unique institution which keeps a great number of materials connected to the Great Hanshin-Awaji Earthquake, the Institute aims to share and hand down the experiences and lessons learned from this terrible event in order to preserve for future generations a true record of the experiences of those who lived through it.

In addition, we aim to pass on, both within Japan and abroad, the latest information regarding natural disasters and disaster management in order to raise public awareness of methods of disaster reduction, and to contribute effectively to improved disaster management throughout the world.