

# Recovery Efforts after the Great Hanshin-Awaji Earthquake

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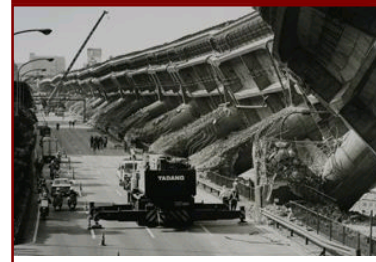
The Great Hanshin Awaji Earthquake  
Occurred at 5:46 am on January 17, 1995

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### 1. Great Hanshin Awaji Earthquake Overall Summary of Damage

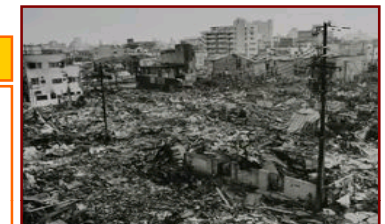
Hanshin Expressway Kobe Route



Date: 5:46 am, 17<sup>th</sup> of January, 1995  
Epicenter: Northern Awaji Island  
(Southern part of Hyogo)  
Scale: 7.3 on Richter Scale  
Seismic intensity: 7 on the Japanese Scale  
(Highest recorded in history)  
Called the Southern Hyogo Earthquake  
Rokko and Awaji Island Faults

#### Damages

Dead: 6,434 people;  
Missing: 3 people  
Financial damage: about \$ 100 billion  
(about 50% of the Hyogo's GDP)  
Houses destroyed (completely and partially  
destroyed): 250,000 (460,000 households)



Nagata Ward, Kobe City

# 1. Great Hanshin Awaji Earthquake Overall Summary of Damage



# 2. Characteristics of the Great Hanshin-Awaji Earthquake



■ **Occurred in a Densely Inhabited Area**  
Population of disaster area – around 3.6 million

■ **Occurred in area where city functions are concentrated**  
Governmental (central, prefectural, municipal), information, transportation and physical distribution function were concentrated

■ **Occurred in area with an aging society**  
30.5% of residents of temporary housings immediately after the earthquake and 46.9% of residents of reconstructed public housing are elderly people over 65 years old.

(the ratio of people 65 and older against total population: 14.5% as of 1995)



# 3. System Supporting Recovery and Reconstruction



(1) **The Great Hanshin-Awaji Earthquake Reconstruction Plan (Hyogo Phoenix Plan)**

(2) **3-Year Priority Reconstruction Plans**  
Housing, Infrastructure, Industry

(3) **Reconstruction Fund (\$9 billion)**  
Providing Careful Services  
(Subsidy for independent recovery of lives, Interest Subsidy for housing loan, etc.)

(4) **Collaboration of Citizens, NPOs, Corporations and Governments**

Earthquake Victim Reconstruction Support Committee



# 3 (1) Hanshin-Awaji Reconstruction Plan Outline <Hyogo Phoenix Plan>



## Basic Theme

■ Harmonious Coexistence Between People and Nature, People and People, and People and Society

## Basic View

■ Creative Reconstruction

## Basic Goals (5 Pillars)

Creation of a **welfare** society tailored for the 21st century  
Creation of a **culturally rich** society open to the world  
Creation of a society where existing **industries** grow and new industries flourish  
Creation of a **disaster-resistant** metropolis where people can live with confidence  
Formation of a multi-centered network-type **metropolitan area**

## Duration

Established July 1995 ■ Target Year 2005

## Expenses

Planned Amount : \$170 billion (660 Projects)  
Actual Amount : \$163 billion (1,358 Projects)

### 3 (2) Priority Three-Year Plans



Within the 10-year Reconstruction Plan, 3-Year Plans were created for urgent matters of residential buildings, infrastructure and industries

Category	Housing (unit: housing unit)	Infrastructure (unit: billion US\$)	Industry
Planned Target (Type of Basic Data for comparison)	125,000 (number of orders)	57.0 (budget allocation)	100.0% (Net Regional Product Index)
Achievement	169,000 (135% of planned target )	58.7 (103% of planned target )	101.7%

☆Overall target level was achieved by the end of March 1998

### 3 (3) Reconstruction Fund



■ The Great Hanshin-Awaji Earthquake Reconstruction Fund (established in April 1995)

- to support recovery of the affected area, Hyogo Prefecture and Kobe City established a fund of \$9 billion (current value).
- the interest from this fund, about \$3.7 billion, has been used for projects to support recovery in the disaster stricken area.

- Life support measures: Self-support fund, etc. 32 projects: \$ 1.8 billion (48.4%)
  - Housing measures: Monetary compensation for interest on housing loans, etc. 33 project: \$ 1.1 billion (29.3%)
  - Industrial measures: Monetary compensation for interest on emergency relief loans, etc. 33 projects: \$ 0.5 billion (14.2%)
  - Educational and other measures: Historical building repair, etc. 15 projects: \$ 0.3 billion (8.1%)
- Total 113 projects: \$ 3.7 billion (100%)

\* 28 projects at the outset increased to 113 projects

### 3 (4) Collaboration of Citizens, NPOs, Corporations and Governments



In addition to "Self support" and "Public support", "Mutual support" is important

↳ Collaboration of Citizens, NPOs, Corporations and Governments

"Catalysts" and "Coordinator" for collaboration are essential

e.g. Earthquake Victim Reconstruction Support Committee

**【Characteristics】**

Consists of scholars, supporters, etc.  
An intermediate organization positioned between disaster victims and the government (Began in July 1995 with 12 experts)

**【Activities】**

Understanding issues at hand by visiting disaster areas  
Giving recommendations to both the government and the disaster victims



e.g. Phoenix Citizens Recovery Network

**【Characteristics】**

Consists of citizens, a diverse of organizations, volunteer groups, companies etc. Assists the disaster-affected in lifestyle rehabilitation

**【Activities】**

Activity of providing goods each other, Support to victims living out of Hyogo, Support for moving into new houses etc.



### 4 (1) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Creation of Society Dedicated to Welfare



Support for independent living  
Enhanced Protection system for elderly disaster victims

- Support of independent living of disaster victims
- Elderly victim's health•classes/events for elderly•community-building

Introduction of a New Type of Housing

- Silver housing, collective housing

Mental Health

- Hyogo Institute for Traumatic Stress
- Psychosocial care for children and students





## 4 (2) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Creation of Culturally Rich Society



### Promotion of Volunteer Activities

- in the first year after the earthquake, about 1,400,000 people had participated in volunteer activities (the birth of volunteerism in Japan)
- The Ordinance concerning the Promotion of Volunteer Activities (1998)
- Hyogo Volunteer Plaza (2002)

### Education on Disaster Reduction for Children, Hands-on Activities for Children, Enrichment of the Child-Rearing Environment

- New disaster prevention education, school support teams (EARTH)
- Teenage Social Circle · Children's Play Areas · The Community Child Care Circle

### Culture-Oriented Development of Unique Communities

- Hyogo Performing Arts Center (2005)
- Hyogo Prefectural Museum of Art (2002)



## 4 (3) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Creation of Society where New Industries Flourish



### Supporting Small Business

- Extending low interest loans so business can resume
- Providing temporary facilities for production

### Supporting Shopping Arcades

- Using open space and vacant shops well
- Revitalization of shopping arcades



### Creating New Industry & Attracting Enterprise

- Subsidy for research and development
- Attracting enterprises by introducing tax relief

### Maintenance and Creation of Employment

- Implementing vocational training programs tailored to employer's needs
- Introducing 'Worksharing' the idea of reducing hours, to avoid laying off employees



## 4 (4) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Creation of Disaster- Resistant Urban Area



### Creation of Practical Disaster Mitigation Systems

- Hyogo Prefectural Disaster Management Center
- Hyogo Phoenix Disaster Management System (a system to gather and summarize disaster prevention information)
- Disaster & Emergency Medical Care System  
Institution Created: Hyogo Emergency Medical Center
- Development of Disaster Management Bases  
Disaster Management Base :  
Miki Earthquake Disaster Memorial Park and others (6 bases)  
Tsunami mitigation station, Tsunami surveillance camera



### Increase Regional Disaster Prevention Capacity

- **Volunteer Disaster Response Groups:** encourage and support (1995.4(27.4%) →2009.4(95.8%))
- Promoting earthquake resistance for homes and public facilities
- Guidance in providing assistance to affected people in the event of a disaster, etc.

## 4(4) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Creation of a Disaster-Resistant Urban Area Creation of Practical Disaster Mitigation Systems



### Networking of Disaster Management Bases (Bases for logistics)

- Store rescue equipment and relief supplies for victims
- Collect and distribute relief supplies
- Assemble and mobilize emergency relief workers



Regional Disaster Mitigation Center



Warehouse for disaster supplies

### Miki Disaster Prevention Park



#### 4 (4) Promotion of Recovery Plan <the Hyogo Phoenix Plan>

Creation of Disaster- Resistant Urban Area  
Creation of Practical Disaster Mitigation Systems



##### Tsunami Mitigation Center



Fukura Port Tsunami Mitigation Station



Evacuation Routes Clearly Displayed

#### 4 (4) Promotion of Recovery Plan <the Hyogo Phoenix Plan>

Creation of Disaster- Resistant Urban Area  
Increase Regional Disaster Prevention Capacity



##### Volunteer Disaster Response Group

a group formed voluntarily by the local residents formed in units of communities

##### ☆Disaster Preparedness

- Learn and acquire knowledge and technique regarding disaster reduction
- Grasp the local circumstances, share information
- Conduct disaster drills
- Accumulate stock of disaster reduction equipment, food, etc.

##### ☆In the Event of a Disaster

- Accurately communicate information
- Lead local residents during evacuation
- Conduct fire extinguishing, rescue, relief activities
- Distribute food and daily commodities



Training for carrying an injured person on a stretcher



Fire drill involving school and community



Firefighting training using a small pump

#### 4 (4) Promotion of Recovery Plan <the Hyogo Phoenix Plan>

Creation of Disaster- Resistant Urban Area  
Increase Regional Disaster Prevention Capacity



90% of deaths during the Great Earthquake were caused by collapsed buildings

##### Promoting earthquake resistance for homes and public facilities

- (1) Formulation of Promotion Plan for Earthquake-Resistant Renovation Works in Hyogo
- (2) Promotion Project for Earthquake-Resistant Renovation work for homeowners  
Subsidies for seismic diagnosis, creating plans for earthquake-resistant renovation work, and actual renovation works
- (3) Earthquake-resistant renovation works for prefecture- owned facilities

To use as hubs for emergency activities and/or for relief activities and evacuation site for disaster victims (schools, hospitals, police stations etc.)



##### E-Defense (3D full-scale earthquake testing facility)

《Before Seismic testing》







■ ■ E-Defense

《After the test : Intensity 7 on Japanese scale 》



4 (5) Promotion of Recovery Plan <the Hyogo Phoenix Plan>  
Renewal of Urban Area  
Community Planning (overall land use planning)

■ Determination of urban plans based on a two-stage system

**First stage:** Project area identification, type of development project, urban facilities (trunk road, etc.) that serve as the core infrastructure

**Second stage:** Neighborhood streets, neighborhood parks, etc ← Citizen's participation (Community Creation Council)

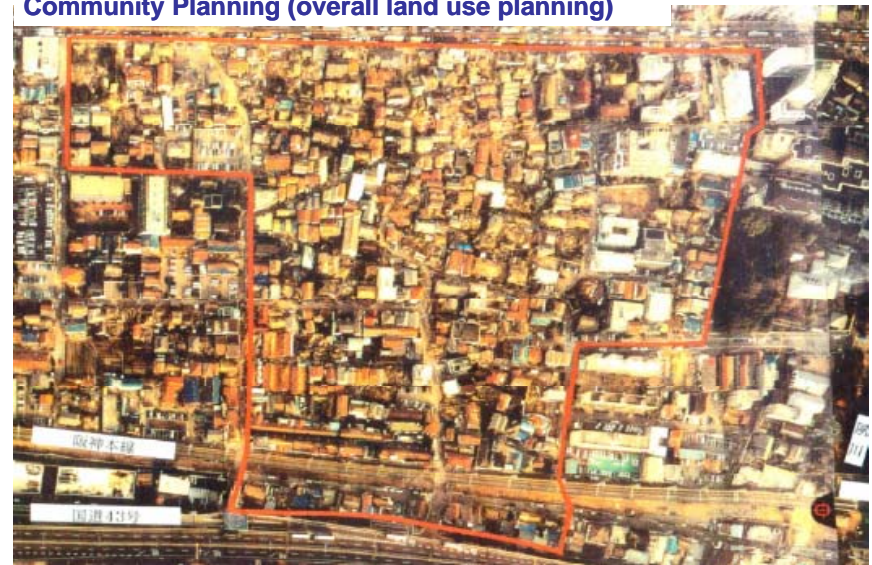


Immediately after the Earthquake



Fully-Reconstructed

Community Planning (overall land use planning)



Immediately after the Earthquake  
(Nishinomiya City)

## Community Planning (overall land use planning)



After Land Readjustment  
(Nishinomiya City)

## 4 (5) Promotion of Recovery Plan <the Hyogo Phoenix Plan> Renewal of Urban Area Housing Recovery



### Reconstruction of Private Housing

- Low interest housing loan
- Interest subsidy for housing loan

### Privately-owned Rental Housing

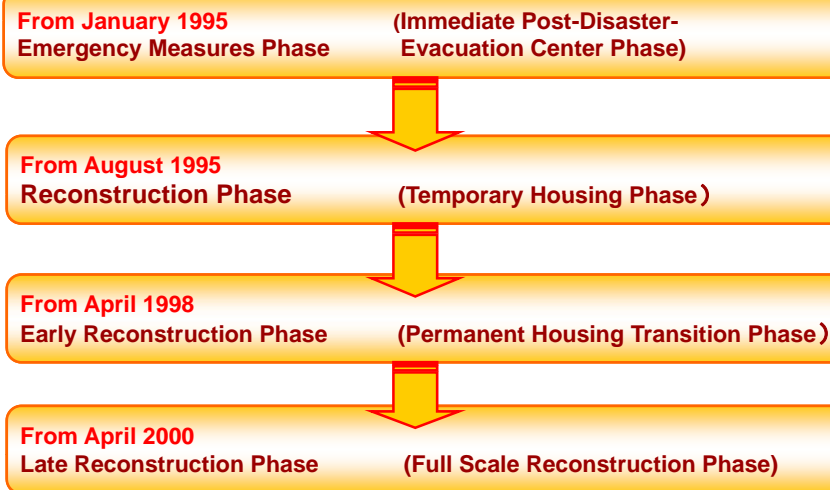
- House rent subsidy
- Promoting the supply of privately-owned rental housing

### Public Housing

- Promoting the supply of disaster recovery public housing
- Reducing the rent burden for disaster recovery public housing



## 5. Recovery Issues and Measures by Phase



## 5 (1) Emergency Measures Phase (Immediate Post-Disaster to Evacuation Center Phase)



### January 1995 to August 1995

#### Main Issues

- Immediate and rapid rescue activities
- Restoration of infrastructure and lifeline utilities
- Improving the living environment of evacuation shelters
- Building temporary housing in the early phase
- Disposing of rubble and building debris



#### Main Efforts

- Firemen, Police, Japanese Self-Defense Forces came from the entire country to offer assistance
- Early Recovery of Lifelines and Transportation Infrastructure
- Transmitting Information to Earthquake Victims, Consulting services with a focus on details
- Providing Temporary Housing
- Housing Demolition and Disposal of Rubble using public funds
- Using the Recovery Fund to support many efforts



## 5 (2) Reconstruction Phase (Temporary Housing Phase)



September 1995 to March 1998

### Main Issues

- Senior Citizen victims in temporary housing need support to recover their daily life.
- Early Recovery of Infrastructure, Housing, and Industry



### Main Efforts

- Establishing community centers within temporary housing to support elderly residents.
- Support of volunteers to recover and daily life activities.
- Establishing Earthquake Victim Reconstruction Support Conference
- Forming an urgent recovery 3-year plan (infrastructure, housing, industry)
- Highway and port Recovery
- Construction of Disaster Recovery Public Housing
- Support industry recovery through local ordinances.

## 5 (3) Early Reconstruction Phase (Permanent Housing Transition Phase)



April 1998 to March 2000

### Main Issues

- While moving into permanent housing, disaster victim need to recover their lives one by one.
- Need for stable employment in the disaster affected area.



### Main Efforts

- Development of systems to monitor and protect the elderly (Living Support Advisors and Lifestyle Restoration Consultants)
- Created community plazas
- The Act for Support for Reconstructing Livelihoods of Disaster Victims
- Events to Create energetic local shopping arcades
- "Hyogo Work Sharing" introduced reduced working hours to have more jobs
- Support for community business

## 5 (4) Late Reconstruction Phase (Full Scale Reconstruction Phase)



From April 2000

### Main Issues

- Measures to address independent living for Seniors, and problems of making a lively town.
- Making a safe and secure that is suitable for an aging society in the 21st century



### Main Efforts

- Strengthening the systems to monitor the elderly (appointing Senior Citizen Supporters, Establishing Mobile Health Care Rooms and Independent Support Plazas for Seniors)
- Measures to promote use of vacant lots and floor space, combining efforts holistically to create a lively energetic town.
- Creating the Mutual Aid System for Housing Reconstruction
- Establishing the Great Hanshin-Awaji Earthquake Disaster Reduction and Human Renovation Institution (DRI)

## 5 (5) Addressing Remaining Issues



**10-Year Reconstruction Overall Verification  
and Recommendation Project (January 2005)  
Recovery Follow up Commissioners Project (March 2010)**

### Remaining Issues

- Support for independent living of elderly disaster victims
- Reviving Community Vitality
- Preserve the Memory of the Earthquake

### Efforts Made

- Creating Elderly independence support plazas and Mobile Health Care Rooms
- Grouping together activities in a system of comprehensive support for revitalizing urban development, for example measures to promote the use of vacant lots and floor space.
- Passing on the experiences and lessons of the Great Hanshin-Awaji Earthquake: develop a "Disaster Culture"; efforts to use the lessons; 'Never forget 1.17' project.



## 6. Transfer and Succession of Experiences and Lessons



### ■ Establishment of the Disaster Reduction and Human Renovation Institute (2002)

Senior researchers: 10; Dedicated researchers: 9

Collection, storage and display of reference materials

Operation costs: 50% supported by the national government

Research and study by specialists

Dispatch of specialists in the event of disasters

Development of practical disaster prevention personnel

Exhibition



## 6. Transfer and Succession of Experiences and Lessons



### ■ Establishment of Hyogo Emergency Medical Center (2003)

**Objective:** Core facility of emergency medical system

**Tasks:**

- Emergency Response Center, Information and Instruction Center
- Collecting and providing emergency medical care information in the event of disaster, Utilizing Ambulance
- Human Resources Development, Collection & Dissemination of Information



## 6. Transfer and Succession of Experiences and Lessons



### ■ Establishment of Hyogo Institute for Traumatic Stress (2004)

**Objective:** To have an specialized institute that addresses traumatic stress and Posttraumatic Stress Disorder (PTSD) caused by disasters, accidents, and abuses.

**Tasks**

- Research, study and training
- Dissemination of information and advocacy
- Alliance building and networking
- Consultation and counseling



## 6. Transfer and Succession of Experiences and Lessons



### ■ JICA Disaster Reduction Learning Center (2007)

World's first disaster management program under collaboration of Hyogo prefecture and JICA

- (1) Comprehensive coordination of disaster risk management training course which is held in Hyogo prefecture
- (2) Implementation of disaster risk management training
- (3) Disaster risk management research and development of educational materials
- (4) Networking and utilization of ex-participants
- (5) Establishment and utilization of data-base for human resource in disaster risk management



## 6. Transfer and Succession of Experiences and Lessons



### Base for International Disaster Management and Humanitarian Support

- DRI in the Kobe New Eastern City Center
- Home to many international institutions related to disaster reduction, medicine, health, and environment, such as OCHA & WHO



- WHO Kobe Centre
- APN Centre
- EMECS

- JICA Hyogo International Centre

- IRP
  - ADRC
  - EDM
  - OCHA relief web
  - UNCRD
  - The Great Hanshin-Awaji Earthquake Memorial Research Institution
  - 21st Century Hyogo Research Organization for Human Care

- Hyogo Disaster Management Center
- Japanese Red Cross Society Hyogo Chapter
- Hyogo Institute for Traumatic Stress

- Disaster Reduction & Human Renovation Institution (DRI)

● International Organization ● Recovery Base

## 7. Mitigation and Disaster Risk Reduction Based on Lessons Learned from the Earthquake



### Lessons from Disaster

- ① The Importance of Disaster Preparedness
- ② The Importance of having systems already in place when earthquake hits.
- ③ The Importance of Recovery Organizations to work together and cooperate.
- ④ The Importance of Preparation at the local level
- ⑤ The Importance of Strong Community Planning

### Risk Reduction and Mitigation Measures

- ① Substantial Disaster preparedness
- ② Preparations of Response Systems
- ③ Coordination between different Recovery Organizations
- ④ Increase Local Level Preparedness
- ⑤ Support for self-help and community cooperation
- ⑥ Disaster Prevention based on Local Conditions.
- ⑦ Support the growth of high level Disaster Mitigation
- ⑧ Increased Safety for Houses and Public Buildings.
- ⑨ Providing fundamental Disaster Preparedness
- ⑩ Overall Measures against Flooding or Mountain Disasters
- ⑪ Sponsor International Cooperation for Disaster Prevention.



## 8. Recovery Condition of the Disaster Affected Area



### Smooth Recovery

#### Population

January 1995

Hyogo Pref. 5,526,689  
Affected area (3,589,126)

May 2010

Hyogo Pref. 5,595,183  
Affected area (3,673,853)

#### Gross Prefectural Production (GPP)

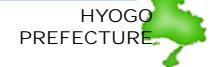
1994

about \$ 200 billion  
(about \$ 128 billion)

2008

about \$ 205 billion  
(about \$ 129 billion)

※numbers above: whole prefecture, numbers in [ ]: disaster-affected area



January 17 shall never be forgotten