Hyogo’s Initiatives for Recovery from the Great Hanshin-Awaji Earthquake 1995

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人と防災未来センターの再現映像

The Great Hanshin-Awaji Eq.  5:46am 17 Jan. 1995
Movie doesn't work on English Language PC
Benjamin Erickson, 3/18/2010
1. Overview of the Great Hanshin-Awaji Earthquake

**Hanshin Expressway Kobe Route**

- **Date**: 5:46 am, 17 January, 1995
- **Epicenter**: Northern Awaji Island (Southern part of Hyogo)
- **Scale**: 7.3 on Richter Scale
- **Seismic intensity**: 7 on the Japanese Scale (highest record in the history)

**Damages in Hyogo**

- Dead: 6,402 people
- Financial damage: about $100 billion (about 50% of the Hyogo’s GDP)
- Houses completely destroyed: 104,004 (182,751 households)
- Evacuees: 316,678 people (as of 23 January 1995)

**Nagata Ward, Kobe City**
2. Characteristics of the Great Hanshin-Awaji Earthquake

- **Occurred in 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 aged 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.
  
  (ratio of people 65 and older against total population: 14.5% as of 1995)
3. Emergency Response and Restoration (1)

Search and Rescue (SAR)
3. Emergency Response and Restoration (2)

Early restoration of lifeline etc.
3. Emergency Response and Restoration (3)

Providing Shelters

Setting up evacuation centers (1,153 places at its peak with 316,000 evacuees)

Emergency temporary housing was provided to all persons who requested it (1st order: 19 Jan).
Provided 48,300 units within 7 months)
3. Emergency Response and Restoration (4)

Removal of collapsed buildings
4. Reconstruction Initiatives

(1) Creation of Structure for Recovery
Hanshin-Awaji reconstruction Committee, 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, NPO, Corporations and Governments
Earthquake Victim reconstruction Support Committee
4. Reconstruction Initiatives

(1) Hanshin-Awaji Reconstruction Committee

Government support

Recommendation

The national government’s Great Hanshin-Awaji Earthquake Reconstruction Headquarters

The national government’s Hanshin-Awaji Reconstruction Committee

Support

The Hyogo Prefecture Great Hanshin-Awaji Earthquake Reconstruction Headquarters

【Function】
As an advisory board for the Prime Minister, conducts research regarding national policies of recovery projects

【Structure】
7 members comprising experts, governor of Hyogo and mayor of Kobe, chaired by former vice-minister of Land, Infrastructure and Transport
4. Reconstruction Initiatives

(1) Reconstruction Plan <Hyogo Phoenix Plan> -1-

**Basic Theme**
- Harmonious Coexistence Between People and Nature, People and People, and People and Society

**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
4. Reconstruction Initiatives

(1) <Hyogo Phoenix Plan> -2-

Duration
- Established: July 1995
- Target Year: 2005

Expenses
- Planned Amount: $170 billion (660 Projects)
- Actual Amount: $163 billion (1,358 Projects)
  - National Government: $83.6 billion (51.3% of total)
  - Local Government: $63.2 billion (38.7% of total)
  - Private Sectors: $16.2 billion (10.0% of total)
## 4. Reconstruction Initiatives

(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.

<table>
<thead>
<tr>
<th>Category</th>
<th>Housing (unit: housing unit)</th>
<th>Infrastructure (unit: billion US$)</th>
<th>Industry (Net Regional Product Index)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Planned Target</td>
<td>125,000 (number of orders)</td>
<td>57.0 (budget allocation)</td>
<td>100.0%</td>
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<tr>
<td>Achievement</td>
<td>169,000 (135% of planned target)</td>
<td>58.7 (103% of planned target)</td>
<td>101.7%</td>
</tr>
</tbody>
</table>

☆Overall target level was achieved by the end of March 1998
4. Reconstruction Initiatives

(3) Reconstruction Fund -1-

**Mechanism of the Great Hanshin-Awaji Earthquake Reconstruction Fund (established in April 1995)**

**Capital Framework**

- **Financial Organization**
  - 1. Municipal bonds $8.8 billion
  - 4. Interest payment
  - 2. Interest free loan
  - 5. Interest
  - 3. Fund
  - 6. Expenditure

**Prefecture: Kobe City (2:1)**

**Reconstruction Fund: $9 billion**

(Basic fund: $200 million of the above)

- **Operation expenses**
  - Approx. $3.7 billion

[Breakdown of fund revenue]

1. Basic fund investment profit: $27 million
2. Fund investment profit: $3.6 billion
3. Lottery profit, etc.: $130 billion

Total about $3.7 billion
4. Reconstruction Initiatives

(3) Reconstruction Fund -2-

Fine-tuned measures are flexibly carried out using about $3.7 billion, obtained as a result of managing the $9 billion in the Reconstruction Fund. (10 Years)

- 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 projects: $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
4. Reconstruction Initiatives
(4) Collaboration of Citizens, NPOs, Corporations and Governments -1-

Mechanism of Earthquake Victim Reconstruction Support Committee

- An intermediate organization positioned between the government and the disaster victims

(Role/Function)
1. Grasping the living conditions of disaster victims, Hearing of opinions, requests, etc (Out Reach)
2. Grasping the governmental policies
3. Giving recommendations, advice, etc. to put lives back in order (Advocacy)
4. Providing information via information magazines

Diagram:
- Government
- Project team
- Disaster Victims
- Support organizations, etc.
4. Reconstruction Initiatives

(4) Collaboration of Citizens, NPOs, Corporations and Governments -2-

Activities of the 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
5. Issues and Countermeasures at each Recovery Phase

<table>
<thead>
<tr>
<th>Phase</th>
<th>Issue</th>
<th>Main countermeasures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urgent Response Period</td>
<td>· Immediate rescue and relief</td>
<td>· Received support from firefighters and police, etc. from all over Japan</td>
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<tr>
<td>From immediately after the earthquake,</td>
<td>· Infrastructure lifelines need to be restoration</td>
<td>· Support came from all over Japan for lifeline recovery</td>
</tr>
<tr>
<td>urgent needs for shelter</td>
<td>· Improving the living environment of temporary housing areas</td>
<td>· Provided temporary housing</td>
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<tr>
<td>(Jan 1995-Aug. 1995)</td>
<td>· Construction of temporary housing</td>
<td>· Created patrols for temporary shelter</td>
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<td></td>
<td></td>
<td>· Created a recovery fund that can be used to address many and varied issues</td>
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<tr>
<td>Early Recovery Period</td>
<td>· Assisting elderly disaster victims who moved into temporary housing</td>
<td>· Senior Centers for social activities were established.</td>
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<tr>
<td>(Temporary Housing Period)</td>
<td>· Early recovery for infrastructure, housing, and industry</td>
<td>· Support was introduced for volunteers involved in recovery activities.</td>
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<td>(Sept. 1995 ~ March 1998)</td>
<td></td>
<td>· Victim Recovery Assistance Councils were established</td>
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<td></td>
<td>· Disaster Recovery public housing was constructed</td>
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<td></td>
<td></td>
<td>· Promotion of investment according to the industry recovery ordinance</td>
</tr>
<tr>
<td>Middle Recovery Period</td>
<td>· At the same time as the transition to permanent housing, disaster</td>
<td>· Life Support Assistants, life recovery advisors were appointed</td>
</tr>
<tr>
<td>Period (Transition to Permanent</td>
<td>victims must rebuild their lives individually.</td>
<td>· The Disaster Victims Relief Act was enacted</td>
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<td>Housing Period)</td>
<td>· Preserving jobs and creating new work in the disaster affected area</td>
<td>· events and activities to make the traditional shopping streets lively again were encouraged.</td>
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<tr>
<td>(April 1998 ~ March 2000)</td>
<td></td>
<td>· Support for community and business</td>
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<tr>
<td>Later Recovery Period</td>
<td>· Addressing the need of assistance for elderly residents to live</td>
<td>· Senior Citizen Supporters and health counseling centers were introduced into the</td>
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<tr>
<td>(Long term Recovery)</td>
<td>independently and town revitalization</td>
<td>communities.</td>
</tr>
<tr>
<td>(March 2000 ~ )</td>
<td>· The need to make a safe and secure mature society for the 21st</td>
<td>· Elderly people’s independence was supported by the creation of local assistance</td>
</tr>
<tr>
<td></td>
<td>century</td>
<td>centers.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>· Town revitalization assistance enterprises</td>
</tr>
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<td></td>
<td></td>
<td>· Establishment of the Disaster Reduction and Human Renovation Institute</td>
</tr>
</tbody>
</table>
6. Promotion of the Hyogo Phoenix Plan
(1) Creation of Society Dedicated to Welfare

- **Enhance Protection system for aged disaster victims**
  - Mobilization of LSA (life support adviser), SCS (senior citizen supporter)
  - Construction of Disaster Relief Housing Community Plaza (meeting place)
  - Opening of the Iki-i-ki Shigoto Juku (Lively Working School)
  - Opening of local “Sickbays”

- **Support for Volunteer Activities**
  - About 1.4 million volunteers took part in a wide range of relief and support activities in the year following the earthquake
  - Number of private voluntary organizations
    - in 1992: 3,811 → in 2004: 8,785

- **Introduction of New Type of Housing**
  - Silver housing, collective housing

- **Hyogo Institute for Traumatic Stress**
6. Promotion of the Hyogo Phoenix Plan (1) Creation of Culturally Rich Society

Education on Disaster Reduction for Children

- Enriching of disaster prevention education
  Disaster prevention education and training at school

![Image of children with fire hoses and maps]
6. Promotion of the Hyogo Phoenix Plan
(2) Creation of Culturally Rich Society

Promotion of Volunteer Activities

- The Ordinance concerning the Promotion of Volunteer Activities (1998)
- Hyogo Volunteer Plaza (2002)

Hands-on Activities for Children, Enrichment of the Child-Rearing environment

- Teenage Social Circle
- The Community Child Care

Culture-Oriented Development of Unique Communities

- Hyogo Performing Arts Center (2005)
6. Promotion of the Hyogo Phoenix Plan
(3) Creation of Society where New Industries Flourish

Supporting Small Business

- Extending low interest loans for the resumption of business
- Providing temporary facilities for production

Creating New Industry & Attracting Enterprises

- Promoting technology transfers between universities and big businesses
- Attracting enterprises by introducing tax relief

Eliminating Employment Mismatches

- Implementing vocational training programs tailored to employer’s needs
6. Promotion of the Hyogo Phoenix Plan
(4) Creation of Disaster-Resistant Urban Area -1-

- Establishment of the Initial Action System
  
  (1) Hyogo Prefectural Disaster Management Center
  (2) Hyogo Phoenix Disaster Management System
  (3) Disaster & Emergency Medical Care System
    - Broad area disaster & emergency medical care information system
    - Disaster Hub Hospital (15 hospitals in the prefecture)
      Foundation hospital: Hyogo Emergency Medical Center
  (4) Volunteer Disaster-Management Organizations
    - Those who were buried alive beneath collapsed buildings was rescued by their community.
      - April 1995 (27.4%) → April 2007 (95.7%)

- Development of Disaster Management Bases
  
  - Disaster Management Base: Miki Earthquake Disaster Memorial Park
  - Tsunami observatory station, Tsunami surveillance camera

- Guidance in providing assistance to affected people in the event of a disaster, etc.
6. Promotion of the Hyogo Phoenix Plan
(4) Creation of Disaster-Resistant Urban Area -2-
-- Networking of Disaster Management Bases --

- Store rescue equipment and relief supplies for victims
- Collect and distribute relief supplies
- Assemble and mobilize emergency relief workers
6. Promotion of the Hyogo Phoenix Plan
(4) Creation of Disaster-Resistant Urban Area -3-
-- Volunteer Disaster Response Groups --

What is a Volunteer Disaster Response Group?

It is a group formed voluntarily by the local residents under the shared awareness that “We must protect our own town”

- Normally formed in units of neighborhood associations or community associations
- In Kobe City, groups are formed based on elementary school districts

☆ 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
Activities of Volunteer Disaster Response Groups

Training for carrying injured person on a stretcher
Activities of Volunteer Disaster Response Groups 2

Firefighting training using small pump
Activities of Volunteer Disaster Response Groups

Fire drill involving school and community
6. Promotion of the Hyogo Phoenix Plan

(4) Creation of Disaster-Resistant Urban Area -4- -- Making Buildings Earthquake Resistant 1 --

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

- Making homes and public facilities earthquake resistant

(1) Formulation of Promotion Plan for Earthquake-Resistant Renovation Works in Hyogo
   • Numeric Targets: 97% for FY 2015
(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
   - Development of social infrastructure that realizes safety and comfort for prefectural residents
6. Promotion of the Hyogo Phoenix Plan
(4) Creation of Disaster-Resistant Urban Area -4- -- Making Buildings Earthquake Resistant 2-1 --

- E-Defense (3D full-scale earthquake testing facility) (Before Seismic testing.)
6. Promotion of the Hyogo Phoenix Plan
(4) Creation of a Disaster-Resistant Metropolis - Making Buildings Earthquake Resistant

- E-Defense (After the test: Intensity 7 on Japanese scale)
6. Promotion of the Hyogo Phoenix Plan
(5) Renewal of Urban Area
-- Urban Development (i) --

- Determination of urban plans based on 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)

- Number of Community Creation Council

in 1994: 48 → in 2007: 376 (Entire Prefecture)

Community Creation Council employed a two-step urban planning decision-making where discussions on town development planning and/or project content were held with participation from residents before details of urban planning were determined.
Immediately after the Earthquake (Nishinomiya City)
After Land Readjustment (Nishinomiya City)
Recovery Status (Street)

Immediately after the Earthquake  
Fully-Reconstructed
6. Promotion of the Hyogo Phoenix Plan
(5) 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 public housing (42,137 houses)
  - Reducing the rent burden for public housing (for 10 years)
Establishment of the Disaster Reduction and Human Renovation Institute

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
Development of practical disaster prevention personnel

Dispatch of specialists in the event of disasters

Exhibition
7. Transfer of Experiences and Lessons (2)

- 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 Doctor Car
  - Human Resources Development, Collection & Dissemination of Information
7. Transfer of Experiences and Lessons (3)


(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
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
8. Recovery Status

Smooth Recovery

Population

January 1995

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

June 2008

Hyogo Pref. 5,593,995
Affected area (3,661,376)

Gross Prefectural Production (GPP)

1994

about $200 billion
(about $128 billion)

2006

about $212 billion
(about $134 billion)

※numbers above: whole prefecture, numbers in [ ]: disaster-affected area
January 17 shall never be forgotten

Tomio Saito, Hyogo, Japan