

## The Shared Role of Self, Mutual and Public Support for Disaster Reduction in Japan

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### ABSTRACT :

The Great Hanshin Awaji Earthquake, Japan, in 1995 hit the second biggest metropolitan area and caused tremendous devastation with more than 6,000 death toll. We realized that only government capacity was not enough to cope with huge disasters and that not only “public support”, but also “mutual support” and “self support” were necessary. Here we considered the role of these three supports by giving analysis of “The Report of the 10-Year Reconstruction Overall Verification and Recommendations” by Hyogo Prefecture Government. We also analyzed some cases to prepare for future big disasters.

We found out that these supports closely interact with each other. While, taking a macro point perspective, “PS” is beneficial for coping with common needs or establishing new institutions, “MS” and “SS” are useful tools – from a micro point of view – to meet individual needs close to local residents. Lessons created from “SS” and “MS” will be fed back to the public arena to make new systems. Making the most of each support characteristics leads to creating a shared role in the disaster reduction collaborative society.

**KEYWORDS:** public support, mutual support, self support, Great Hanshin-Awaji Earthquake, disaster reduction collaborative society

### 1. RESEARCH PURPOSE

The Great Hanshin Awaji Earthquake, Japan, in 1995 hit the second biggest metropolitan area and caused tremendous devastation with around 6400 death toll and economic loss of 10 trillion JPT. The functions of governments were paralyzed, which revealed that only government capacity was not enough to cope with huge disasters.

On the other hand, around 80 % of residents, who were trapped inside a house, were rescued by neighborhood. Volunteers and communities had an important role of taking care of both temporary and permanent houses. Community development activities, initiated by victims, were also implemented. Such phenomena prompted the role of private sector.

Japan is geographically vulnerable to earthquake hazard. The event probability of large-scale earthquakes such as Tokai, Tonankai and Nankai in the next 30 years is respectively 80%, 50% and 40%.

We cannot stop the occurrence of natural hazard, but can reduce the damage caused by the hazard. The Japanese Government regulated “the earthquake disaster reduction strategy” in the next 10 years to set the goal with which we reduce by half death toll and damage cost. It is indispensable to get the cooperation from private sector to reach the goal. Activities by various actors, for public awareness for earthquake resistant building and quick evacuation from tsunami, education to community by NPO and business continuity plan by enterprise, are required to reduce the damage.

In this research, we analyze the challenges of “Public Support (PS)” by national or local government, “Mutual Support (MS)” by community or several actors and “Self Support (SS)” by individual, single group or enterprise, based on the emergency, recovery to reconstruction process from “the Great Hanshin Awaji Earthquake”. Hyogo Prefecture Government, which was affected by the quake, compiled “The Report of the 10-Year Reconstruction Overall Verification and Recommendations”. We have researched on these activities introduced in this report to analyze “who has done what for whom” and considered how “PS” ”MS” and “SS” were

implemented and interacted with each other. Now several activities by “MS” and “SS” are implemented across the country, based on the lesson from the quake. We expect this research to give important suggestions when we consider effective sharing of roles between “PS”, “MS” and “SS” in “disaster reduction collaborative society”.

## 2. RESEARCH METHODOLOGY

We analyze the role of “PS”, “MS” and “SS” through “The Report of the 10-Year Reconstruction Overall Verification and Recommendations”. This report is an authorized evaluation report to verify the activities for those 10 years after the quake, in cooperation with prestigious academic experts. The report has divided both achievements and future tasks into 6 fields with 54 themes, which consist of “Overall Verification”, “Health and Welfare”, “Society and Culture”, “Industry and Employment”, “Disaster Reduction” and “Urban Development and Community Building”.

The report also summarized basic ideologies and vectors, from the horizontal point of view, common to all the individual verification and recommendations, presenting them as 12 keynotes. These are “Developing Safe and Secure Urban Communities”, “Creating a Symbiotic Society”, “Making Further Progress in Administrative Decentralization and Reconstruction Spearheaded by Local Governments”, “Promoting Active Participation and Cooperation of Ordinary Citizens”, “Establishing Effective Risk Management System”, “Improving Emergency Response Systems and Support Mechanisms for Rebuilding Housing and Livelihood”, “Response to Social Weakness including Elderly People”, “Fostering Revitalization and Prosperity in Local Region”, “Using Local Culture, Local Cityscapes and Local Scenery to Create Distinctive Urban Communities”, “Inter-Regional Coordination and Interaction”, “Promoting Interregional Cooperation in Disaster Reduction” and “Passing on and Disseminating Information on Experience Gained and Lessons Learned from the Earthquake”.

Here, we analyze each keynote with some projects from the themes and consider “who has done what for whom” and how “PS” ”MS” and “SS” were implemented and interacted with each other.

And we also consider how the lessons are disseminated to other areas. We introduce “Community Based Organizations in Hiratsuka”, “Neighborhood Business Association around Tokyo Station” and “Disaster Management Office in Nagoya University”.

## 3. ANALYSIS OF “THE REPORT OF THE 10-YEAR RECONSTRUCTION OVERALL VERIFICATION AND RECOMMENDATIONS” BY HYOGO PREFECTURE GOVERNMENT

Here we analyze each of 12 keynotes with some projects from 54 themes and consider “who (Public Support”, “Mutual Support” or “Self Support”) has done what for whom”. The following shows each keynote with its small items. We pick up at most 2 activities from each item, followed by the role of (“PS”, “MS” or “SS” for whom).

### (Keynote 1) Developing Safe and Secure Urban Communities

a) Providing infrastructure conducive to disaster resistant urban development

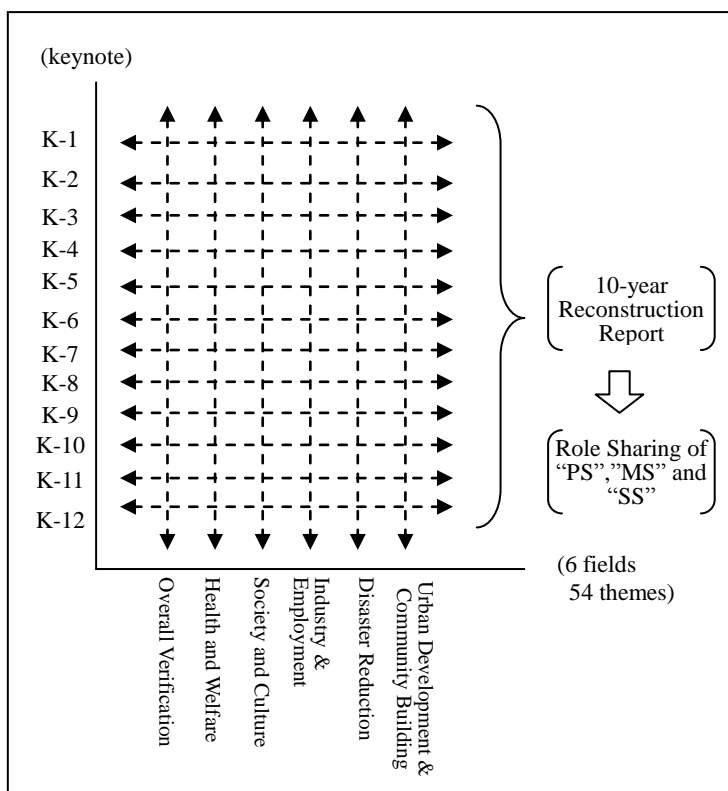


Chart 1: Lessons from “The Great Hanshin-Awaji Earthquake

- Strengthening disaster resistant urban systems including traffic infrastructure and lifeline (“PS” for “Gov, Community and Victim”)
  - Promoting anti-seismic houses and public facilities (“PS, MS and SS” for “Gov, Community and Victim”)
- b) Educating community and building a society that works together to reduce disasters
- Sharing disaster information through hazard map and broadcasting service in emergency times (“PS and MS” for “Community and Victim”)
  - Establishing disaster resistant communities by “autonomous disaster group”, “community development association” and NPO/NGO (“PS, MS and SS” for “Community and Victim”)
- c) All-round development of urban communities that are safe and secure both from structural and non-structural point of view
- Creating safe and secure communities in the field of disaster management, medical, health and welfare such as “disaster emergency medical system” and “community coordinator” (“PS, MS and SS” for “Gov, Community and Victim”)

***(Keynote 2) Creating a Symbiotic Society***

- a) Reassessment and revitalization of neighborhood and community based organizations
- Arranging “community coordinator” (“PS and MS” for “Community and Victim”)
  - Allocating “special supporter” and establishing “community plaza” for elderly people (“PS and MS” for “Community and Victim”)
- b) Creating a community in which various groups can provide mutual support and coexist harmoniously
- Dispatching experts to establish “community development association” (“PS and MS” for “Community and Victim”)
  - Establishing “Voluntary Plaza” and “Disaster Reconstruction Fund” to support community and NPO/NGO activities (“PS” for “Community and NPO/NGO”)
- c) Creating a sustainable symbiotic society
- Supporting foreign residents regardless of region, generation, ethnic and culture difference (“PS, MS and SS” for “Community and Victim”)
  - Promoting environmental conservation and creating a recycling oriented society through “water and greenery network”(“MS” for “Community and Victim”)

***(Keynote 3) Making Further Progress in Administrative Decentralization and Reconstruction Spearheaded by Local Governments***

- a) Local leadership in reconstruction and remaining challenges
- Making disaster reconstruction plan by local government with support of finance and policy from the central government. (“PS” for “Gov”)
  - Creating an outreach program like “Hyogo Forum for Advocating Individual Recovery” to reflect individual needs on reconstruction policy (“PS and MS” for “Community and Victim”)
- b) Institutional and financial security for reconstruction by local entities
- Regulating “basic act for disaster reconstruction”. Clarifying legal positioning of “reconstruction” and job description between central and local governments (“PS” for “Gov”)
  - Making “Reconstruction Fund” permanent system (“PS” to “Gov”)
- c) Promoting restoration spearheaded by local entities and administrative decentralization with a view to independent and creative community development
- Promoting trinity reforms and transfer of authority to local government (“PS” to “Gov”)

***(Keynote 4) Promoting Active Participation and Cooperation of Ordinary Citizens***

- a) Germination of support mechanisms for an autonomous civil society
- Regulating “Prefecture Ordinance regarding Promotion of Active Participation and Cooperation by Citizens” (“PS” for “Gov, Community and Victim”)

- Establishing “Collaboration Meeting between Government and NPO” to link the government and victims (“PS and MS” for “Community and Victim”)
- b) A “New Public Sphere” and community development based on active participation and cooperation by ordinary citizens
  - Establishing partnership between the local government and CBO or NPO through “Citizens’ Network for Livelihood Reconstruction” and “Voluntary Plaza” (“PS and MS” for “Gov and Community”)
  - Building proper coordination and role-sharing between prefecture and municipality (“PS” for “Gov”)
- c) Establishing partnership among citizens, between citizens and government to ensure active participation and cooperation
  - Establishing partnership among citizens and between the local government and citizens to proceed on community development through active participation and cooperation by citizens (“PS, MS and SS” for “Gov, Community and Victim”)

***(Keynote 5) Establishing Effective Risk Management System***

- a) Improving risk management systems in view of lessons learned from the Earthquake
  - Opening “Disaster Management Center” with 24 hour monitoring and “standby accommodation” (“PS” for “Gov”)
  - Establishing “emergency disaster relief specialist volunteer” and “autonomous disaster reduction group” (“MS” for “Community”)
- b) Building an effective and wide-area risk management system
  - Improving coordination including organizational system, command and information sharing between local government, police, fire department and Self Defense Force (“PS” for “Gov”)
  - Fostering volunteer personnel for disaster management (“PS” for “Community, NPO and Victim”)
- c) Working towards a truly effective risk management system
  - Evaluating planning and manual to drill on disaster management (“PS, MS, and SS” for “Gov, Community and Victim”)

***(Keynote 6) Improving Emergency Response Systems and Support Mechanisms for Rebuilding Housing and Livelihood***

- a) Creating new systems to support rebuilding of housing and livelihood prompted by the earthquake
  - Establishing loan systems such as “petty cash loan”, “Disaster Relief Fund Loan” and “Living and Welfare Fund Loan” (“PS” for “Victim”)
  - Providing grant by Natural Disaster Victims Reconstruction Law (“PS” for “Victim”)
- b) Improving systems for self-support, mutual support and public support in readiness for large-scale disasters
  - Promoting anti-seismic building (“PS, MS and SS” for “Gov, Community and Victim”)
  - Promoting housing reconstruction through “Natural Disaster Victims Reconstruction Law” and “Housing Mutual Aid System” (“PS” for “Victim”)
- c) Building emergency response systems and support mechanism for rebuilding of housing and livelihood in a mature society
  - Establishing “Friendship Center” and “counselor” in temporary housing site (“PS and MS” for “Victim”)
  - Operating housing reconstruction systems flexibly thorough “shared housing replacement” and “district plan” and “apartment rebuilding”(“PS and MS” for “Community and Victim”)

***(Keynote 7) Response to Social Weakness including Elderly People***

- a) Implementing sensitive measures and new initiatives for social weakness against disasters
  - Creating “elderly watch over system” in community (“PS and MS” for “Victim”)
  - Establishing “Institute for Traumatic Stress” and “teaching staff in charge of traumatic stress” (“PS” for “Victim”)
- b) Expansion of pioneering initiative prompted by the earthquake
  - Establishing new community care system such as “Ordinance on Welfare Community Development” and

- “Community Development with Universal Design” (“PS” for “Community”)
  - Creating mutual support system like “friendship center” by residents in the same community (“PS, MS and SS” for “Community and Victim”)
- c) Creating new systems enabling the elderly to retain their zest for life
- Implementing project to enhance victims’ motivation in life thorough training school (“PS” for “Victim”)
  - Creating community for elderly people to support their friendship and whereabouts (“MS” for “Victim”)

***(Keynote 8) Fostering Revitalization and Prosperity in Local Region***

- a) Developing new initiatives prompted by the earthquake
- Implementing financial assistance such as “Emergency Fund for Disaster Recovery” and “interest subsidy by Disaster Reconstruction Fund” (“PS” for “Enterprise”)
  - Enacting “Ordinance on the Promotion of Industrial Recovery through the Formation of New Industrial Base Districts (tax exemption, employment subsidy and lower loan)” and the subsequent establishment of Special Zones for Structural Reform” (“PS” for “Enterprise”)
- b) A framework for industrial reconstruction and industrial structural reform
- Establishing “New Industry Research Organization”, initiated by industry - government - academia collaboration, to incubate start –up businesses (“PS and MS” for “Enterprise”)
  - Implementing an event and issuing community currency for local residents to go back to shopping street (“MS” for “Shop Owner, Community and Victim”)
- c) Industrial reconstruction and regional planning using characteristics and resources in the region
- Opening tourism event like Kobe Luminarie as a symbol project every winter (“PS and MS” for “Region”)

***(Keynote 9) Using Local Culture, Cityscapes and Scenery to Create Distinctive Urban Communities***

- a) Regenerating local culture and cityscapes following the earthquake
- Establishing “Performing Art and Concert Center” and “Museum of Art” (“PS” for “Victim”)
  - Regenerating modern buildings and historical sites like “sake-brewery” (“MS” for “Community”)
- b) Development of initiatives putting lessons learned from the earthquake to good use
- Creating framework to support personnel and institution undertaking cultural activity (“PS and MS” for “cultural institution and Victim”)
  - Promoting plans involving citizens’ participation for creation of arts, culture facilities, reinforcement of their disseminative function and management of facilities (“PS and MS” for “Community and Victim”)
- c) Using local culture, cityscapes and scenery to develop distinctive urban communities
- Promoting art and culture such as traditional cultural events, music and fine arts (“PS, MS and SS” for “Community and Victim”)
  - Sustaining and developing local cityscape and scenery (“PS, MS and SS” for “Community and Victim”)

***(Keynote 10) Inter-Regional Coordination and Interaction***

- a) Nationwide coordination and networking
- Concluding agreement of mutual dispatch among local governments at the time of disaster (“PS” for “Gov”)
  - Establishing “NPO/NGO and volunteer network” to support disaster victims (“MS” for “Community and Victim”)
- b) Building support networks for disaster affected site
- Dispatching experts to affected site from “Disaster Reduction and Human Renovation Institution” (“PS” for “Gov”)
- c) Steady progress in inter-regional coordination and interaction
- Promoting exchange between urban and rural areas through “green tourism” and through business links between city shopping arcades and rural farmers (“MS” for “Community”)
- d) Promoting steadily regional cooperation and exchange



- Promoting regional cooperation and exchange through daily activities (“MS and PS” for “Community and Victim”)

***(Keynote 11) Promoting Interregional Cooperation in Disaster Reduction***

- Expansion of international cooperation and coordination
  - Dispatching experienced staff in disaster activity to disseminate their experience and lessons (“PS” for “Gov in affected country”)
  - Establishing disaster reduction and humanitarian support core facilities (“PS” for “Gov, Community and Victim in affected country”)
- Building on lessons from the earthquake to create a framework for cooperation in disaster management
  - Implementing human resource development and mutual exchange for disaster management (“PS” for “Gov and community”)
  - Disseminating materials and data on lessons and experience from disasters (“PS and MS” for “Gov, Community and Victim”)
- Promotion of international cooperation in disaster reduction, whereby international community works together in close liaison
  - Establishing “International Recovery Platform” to comprehensively support for reconstruction in affected countries (“PS” for “Gov, Community and Victim in affected country”)

***(Keynote 12) Passing on and Disseminating Information on Experience Gained and Lessons Learned from the Earthquake***

- Cultivating “disaster culture”
  - Stockpiling water and ration and fixing furniture (“SS” for “Victim”)
  - Fostering “disaster culture” to promote preparedness in a society (“PS, MS and SS” for “Gov., Community and Victim in affected country”)
- Disseminating and utilizing experience gained and lessons from the earthquake
  - Implementing “5 year and 10 year Reconstruction Overall Verification and Recommendations” (“PS” for “Gov, Community and Victim”)
  - Promoting overall disaster research to make use for reconstruction and reduction (“PS and MS” for “Gov, Community and Victim”)
- Ongoing initiatives to ensure that January 17 shall never be forgotten
  - Opening memorial events to designate January 17 as “Disaster Reduction and Volunteer Day” (“PS and “MS” for “Gov, Community and Victim”)
  - Implementing disaster awareness activity by “Disaster Reduction and Human Renovation Institution” (“PS and MS” for “Gov, Community and Victim”)

**4. CONSIDERATION BASED ON THE ANALYSIS OF THE 10 YEAR RECONSTRUCTION REPORT**

We summarized the result of analysis of each keynote in “The Report of the 10-Year Reconstruction Overall Verification and Recommendations”, from the viewpoint of the role by “PS”, “MS” and “SS”. The table 1 shows the result.

Table 1 Analysis of “The Report of the 10-Year Reconstruction Overall Verification and Recommendations”

K.1	While “PS” occupies in the field of structural foundation such as traffic infrastructure, housing and public facility, “MS” and “PS” mainly play the role of fostering community. For example, housing, which is considered for elderly people, is developed from the viewpoint of nonstructural elements where we can find the role of “MS”.
K.2	Reconstruction activities were implemented to reflect on an important role of community by “MS” and “SS”. Gov. gave rear support to such pioneering project through institutional or financial

	assistance by “PS”.
K.3	“PS” plays the main role, because reconstruction framework and decentralization of authority is mainly in the field of Gov. On the other hand, an outreach program focused on community and victim was created in cooperation with “MS”.
K.4	While Gov.’ (“PS”) established an ordinance to lead “citizens’ participation and cooperation”, “MS” and “PS” cooperated to create an opportunity for autonomous citizens’ society and to provide experts. “PS, MS and SS” practically worked together and promoted “participation and cooperation”.
K.5	“PS” played a main role to develop Gov. facility and system, and coordinated between Gov. and Gov. On the other hand, “PS” supported “MS and SS”, because the role of NPO and volunteer has increased to engage in disaster relief activities.
K.6	Housing loan system was implemented to financially support victims by “PS”. Also, public money was directly provided to victims. While “PS” played a main role to develop housing infrastructure, experts in community development supported to fulfill victim’s life. “PS, MS and SS” worked together to promoted the activity.
K.7	In many cases, “MS” developed a new system and initiated to provide tender care to victims. “PS” created formal system to encourage “MS and SS”.
K.8	Financial support system by “PS” was created through new ordinance and institution to affected enterprise. “MS” joined “PS” to foster revitalization in shopping street and to promote industry reconstruction such as industry – government – academic collaboration and tourism development.
K.9	Community, victim and expert jointly promoted community development full of characteristic by “MS”. “PS” provided subsidy and facility necessary for culture and cityscape.
K.10	Gov. used to play a main role to cooperate among regions by “PS”. After the disaster, we have seen some cases where volunteers gave support to victims in affected sites and other cases by “MS and SS”.
K.11	Both “PS and MS” give support to overseas affected areas. Gov. created facilities for public awareness and training through which they contribute for human resource development.
K.12	“PS, MS and SS” jointly tackle a task to foster disaster culture and prevent weathering. Disaster reduction exhibition facility was created to provide public awareness for Gov., community and victim. Also verification and research are implemented by Gov. and researchers.

We can find out that the following matter is the characteristics of “Public Support”, “Mutual Support” and “Self Support”

- a) Government mainly takes charge of system, framework and structural infrastructure by “PS”.
- b) Activities close to victims in non-structural matters are newly created and led by “MS”. “PS” fleshes out them by institutional positioning and financial assistance.
- c) Direct support for victims such as social weakness and community development are mainly covered by “MS”.
- d) “MS and SS” and “PS” are defined as equal partner in “a symbiotic society” and “Citizens’ Participation and Cooperation”. “PS” encourages and empowers “MS and SS” to realize this situation.
- e) While no any area of keynote rules out “MS” and “SS”, it is difficult to sustain the activities by “MS” and “SS” without the cooperation by “PS”. These three elements closely interact with each other.

## **5. EXTENSION OF “MUTUAL SUPPORT” AND “SELF SUPPORT” ACTIVITIES**

NGO/NPO and community activities have progressed in many areas and regions, after the Hanshin - Awaji Earthquake. Here we analyze three cases to prepare for future super wide-area earthquakes in future.

### ***5.1 Hiratuska Community Development Society for Disaster Reduction***

Hiratsuka City is located in the area 60 km west of Tokyo. Its population is 260,000. This area will be affected

by Tokai and other earthquakes. There, Community Based Organizations on disaster reduction develop various activities such as anti-seismic reinforcement, town watching, operation drill of evacuation center, support network for social weakness. CBOs are also active in many other fields including welfare, environment and education. Many citizens join them and extend their face to face network. As a result, disaster reduction activities take root on neighborhood basis. The municipality government provides them with work space and financial aid. We can find out the combination of initiative by community and rear-support by government.

### ***5.2 Neighborhood Business Association for Disaster Reduction around Tokyo Station***

There are so many corporate headquarters, railway stations, hotels and recreation centers. While the population of Chiyoda Ward is only 42,000, there are 800,000 people in daytime. They are called daytime population, consisting of employees, shoppers, incoming and outgoing rail passengers. And around 400,000 people would have difficulties in returning home when a big earthquake occur. The ward government expects the business association to take care of the daytime population. The companies adopts the concept of “DCP” (district continuation plan) rather than each own “BCP” (business continuity plan). It implements disaster drill for foreign visitors, and will provide evacuees with their own office space for evacuation. There are shared roles of business community and government between daytime and nighttime.

### ***5.3 Disaster Management Office in Nagoya University***

Nagoya is the third largest metropolitan area in Japan. This area has been designated as “an area to strengthen earthquake disaster management against Tokai Earthquake” and “an area to promote earthquake disaster management against Tonankai and Nankai Earthquake”. The office has become a hub to establish a disaster reduction network which links between governments, schools, companies, NPOs, communities and mass media.

## **6. CONCLUSION**

In this research, we analyzed the role of “public support”, “mutual support” and “self support” on the basis of “The Report of the 10-Year Reconstruction Overall Verification and Recommendations” by Hyogo Prefecture Government. We found out the results above mentioned on the chapter 4. We also researched on some other cases in Japan and considered the role sharing toward disaster reduction collaborative society against future big disasters. Now we realize that both self and mutual supports are useful tools – from a micro point of view – to meet individual needs close to local residents. On the other hand, taking a macro point perspective, public support is beneficial for coping with common needs or establishing new institutions. Lessons created from self and mutual support will be fed back to the public arena to make new systems. Making the most of each support characteristics leads to creating a shared role in the disaster reduction collaborative society.

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