報告書

ネパールにおける
Build Back Better の取組みと未来への展望
～さらなる国際社会の協働を目指して～

Build Back Better Recovery Strategy from the Nepal Earthquake
– Further international cooperation of stakeholders –

国際防災・人道支援フォーラム2016

International Disaster Reduction Forum (DRA Forum 2016)

と き Date/Time

平成28(2016)年1月20日(水)
13:30～17:00
January 20th (Wednesday), 2016, 13:30～17:00

ところ Venue

神戸ポートピアホテル 偕楽の間
(兵庫県神戸市中央区港島中町6-10-1)
Portopia Hotel (Minatojima Nakamachi, Chuo-ku, Kobe)

主　催　国際防災・人道支援フォーラム実行委員会
人と防災未来センター、兵庫県、アジア防災センター(ADRC)、国際協力機構(JICA)関西国際センター、
国際復興支援プラットフォーム(IRP)、国連国際防災戦略事務局(UNISDR)駐日事務所、兵庫県立大学防災教育研究センター、
ひょうご震災記念21世紀研究機構(Hem21)、国際防災・人道支援協議会(DRA)

International Disaster Reduction Forum Executive Committee
Disaster Reduction and Human Renovation Institution (DRI), Hyogo Pref., Asian Disaster Reduction Center (ADRC), JICA Kansai, International Recovery Platform (IRP), UNISDR Office in Japan, Education and Research Center for Disaster Reduction of University of Hyogo, Hyogo Earthquake Memorial 21st Century Research Institute (Hem21), Disaster Reduction Alliance (DRA)

後　援　朝日新聞社、神戸新聞社
Asahi Shimbun, Kobe Shimbun

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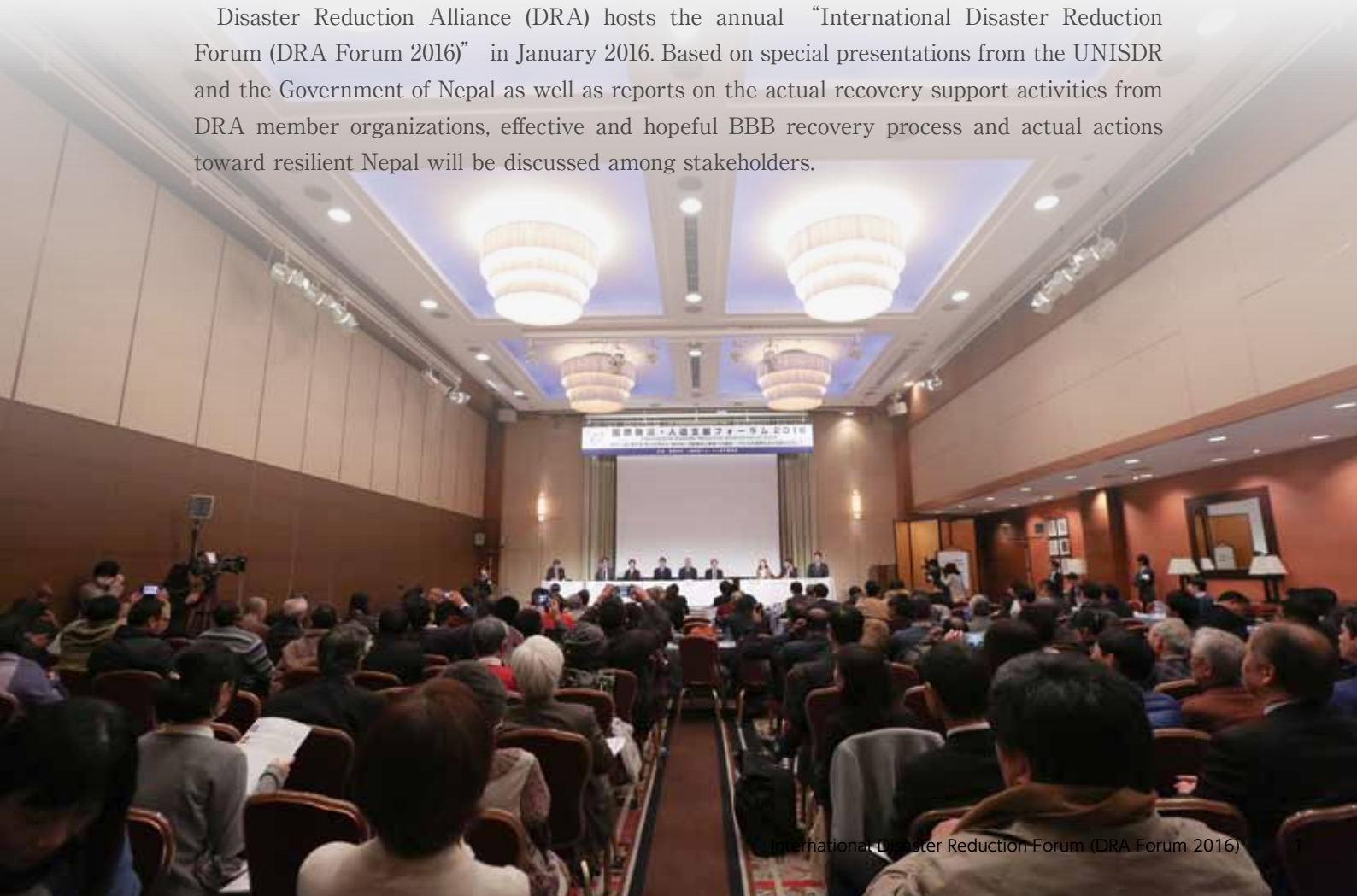
International Disaster Reduction Forum (DRA Forum 2016)

Summary Report

In March 2015, the Third UN World Conference on Disaster Risk Reduction (WCDRR) was held in Sendai, Japan, where the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted. The Sendai Framework highlights the importance of Build Back Better (BBB) in recovery, rehabilitation and reconstruction.

Only 1 month after the WCDRR, a devastating Mw.7.8 earthquake hit Nepal, which caused great damage in Nepal, India China and Bangladesh.

Disaster Reduction Alliance (DRA) hosts the annual "International Disaster Reduction Forum (DRA Forum 2016)" in January 2016. Based on special presentations from the UNISDR and the Government of Nepal as well as reports on the actual recovery support activities from DRA member organizations, effective and hopeful BBB recovery process and actual actions toward resilient Nepal will be discussed among stakeholders.



Profile

Special Report

Ms. Yuki Matsuoka
Head, UNISDR Office in Japan

Ms. Matsuoka is the Head of the UNISDR Office in Japan, since 2009.
She became Programme Officer at the UNISDR Headquarters (Geneva) in April 2004 and engaged in the inter-governmental process for the development of the Hyogo Framework for Action, and coordination of the 2nd UN World Conference on Disaster Reduction held in January 2005 in Kobe. Between April 2005 and December 2007, she served as Special Assistant to the Director at the UNISDR Headquarters. In 2008, she moved to Kobe to manage the newly established UNISDR Office in Kobe. Prior to UNISDR, she worked as Special Adviser of the Ministry of Foreign Affairs of Japan in the area of Human Rights at the Permanent Mission of Japan to the United Nations in Geneva. She holds PhD in Global Environmental Studies.

Special Lecture

Mr. Padma K Mainalee
Joint Secretary, Ministry of Urban Development, Nepal

Qualified with "Master of Architecture in Human Settlements" from Katholieke Universiteit, Leuven Belgium and numerous training on Urban Development, Housing and Architecture including "Post Graduate Certificate European Spatial Planning" from University of Newcastle upon Tyne UK, Mr. Padma K MAINALEE is Joint secretary and Division Chief of Housing and Building Division at the Ministry of Urban Development, Government of Nepal. He is also a focal person of Disaster Risk Reduction, and for the Housing Rehabilitation and Reconstruction program in the Ministry.

Commentator

Mr. Ryoma Kayano
WHO Centre for Health Development / Technical Officer - Health Risk Management

Mr. Kayano is a technical officer of WHO in charge of health emergency. He works as a focal point of health emergency of WHO Centre for Health Development and communicate with different municipalities for preparedness of health emergency. In 2011, as a member of Tokyo Metropolitan Medical Relief Team for Great East Japan Earthquake, he was dispatched to disaster areas Fukushima and Iwate. He is a medical doctor with expertise of psychiatry and works as a coordinator of researches on mental health and disaster medicine.

Facilitator

Mr. Yoshiteru Murosaki
Vice President, Hyogo Earthquake Memorial 21st Century Research institute/President, Education Center for Disaster Reduction, University of Hyogo/President, Hyogo Voluntary Plaza/ Professor emeritus at Kobe University

Born in 1994. Mr. Murosaki got the B.S. in Engineering, Kyoto University, M.S. in Engineering, Graduate School of Kyoto University. He worked as Professor of Research Center for Urban Safety and Security, Kobe University, President of Fire Research Institute, President of National Research Institute of Fire and Disaster, Professor of Kwansei Gakuin University, and then assumed the present post since 2013.
Major Literary Works are; Regional Planning and Fire Control (Chiiki Keikaku to Bouka), 1981, Keiso Shobo, Building Disaster Prevention and Safety (Kenchiku Bousai・Anzen), 1993, Kajima Institute Publishing, and After the Great Earthquake (Daishinsai Igo), 1998, Iwanami Shoten.



Panel Discussion

Mr. Susumu Yuzurio

Director, Infrastructure and Peacebuilding Department, Japan International Cooperation Agency (JICA)

Born in Itami City in Hyogo, Mr. Yuzurio joined JICA in 1997 and served for reconstruction operation after the US invasion of Iraq in 2003. He obtained MSc at Kwansei Gakuin Univ. and MPA at Harvard University. Current position since April 2015.

Ms. Kyoko Kondo

Executive Director, Asian Disaster Reduction Center (ADRC)

Born in Yokohama, Ms. KONDO graduated from University of Tokyo (LLB) and obtained a Msc. from University of London, by external course. Before joining ADRC, she was director for Policy Planning Office of the National Spatial Planning and Regional Policy Bureau, Ministry of Land, Infrastructure, Transport and Tourism, MLIT, Japan. She joined the government of Japan, Cabinet Office, National Land Agency and worked mainly in the fields of regional development policy, land property policy as well as natural disaster reduction. She also worked for the IDNDR secretariat of the UN office in Geneva at the occasion of the First World Conference for Natural Disaster Reduction held in Yokohama in 1994, and for the GOV/OECD in Paris 2000-2004.

Mr. Shingo Kochi

Senior Recovery Expert, International Recovery Platform (IRP)

Mr. Kochi has been bringing with him over 15 years of experience, as Hyogo Prefectural Government official, in the field of disaster reconstruction and recovery across the globe. He is concurrently serving as Senior Recovery Expert at the International Recovery Platform, where he coordinates multiple joint projects including "IRP Workshops on Recovery Planning". His earlier posts include Deputy Director of International Cooperation for Disaster Management, Cabinet Office of Japan. His educational history covers MBA, University of Maryland, USA.

Mr. Ryosuke Aota

Associate Professor, Education and Research Center, University of Hyogo

Mr. Aota used to be a public servant of Hyogo Prefecture. During that period, he was seconded to the Ministry of Foreign Affairs to work for the Japanese Consulate in Perth, Australia from 1992 to 1994. He also has the experience in working at Asian Disaster Reduction Center from 1998 to 2002. He got PhD in the graduate school of natural science, Kobe University in 2004. His main research is public private partnership to support affected people in the stage of disaster recovery and reconstruction. Current post since 2015.

Mr. Masahiko Murata

Director, Research Department, Disaster Reduction and Human Renovation Institution (DRI)/ Advisor to the Director General, Policy Planning & Civil Affairs Department, Hyogo Prefectural Government

Born in Nishinomiya, Hyogo. After graduated from the Tokyo University (Department of Urban Technology), Mr. Murata joined the Hyogo Prefectural Government as a civil engineer. He lost his grandmother by the 1995 Earthquake. After the Earthquake, he worked as a launching member of the Great Earthquake Reconstruction Headquarter of Hyogo, the Asian Disaster Reduction Center (ADRC), DRI, the International Recovery Platform (IRP). After the assignment at the Disaster Management Policy Division of Hyogo. Current post since 2012.

Program

13：30～	Opening Greetings	Makoto Iokibe — Chairperson, Disaster Reduction Alliance,President, Hyogo Earthquake Memorial 21st Century Research institute Toshizo Ido — Governor, Hyogo Prefecture Kaoru Saito — Director, International Cooperation Division, Disaster Management Bureau, Cabinet Office, Government of Japan
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14：25～	Special Lecture	Damage and Recovery Status of the Nepal Earthquake and Future Perspectives Padma K Mainalee — Joint Secretary, Ministry of Urban Development, Nepal
15：05～		Break
15：20～	Panel Discussion	Transfer of Japanese BBB experiences to Nepal <Reporting and Discussion> ・Japan International Cooperation Agency (JICA) — Susumu Yuzurio ・Asian Disaster Reduction Center (ADRC) — Kyoko Kondo ・International Recovery Platform (IRP) — Shingo Kochi ・Education and Research Center for Disaster Reduction of University of Hyogo — Ryosuke Aota ・Disaster Reduction and Human Renovation Institution.(DRI) — Masahiko Murata <Commentator> ・WHO Centre for Health Development — Ryoma Kayano Speakers of the Report and Lecture <Facilitator> Yoshiteru Murosaki Vice President of Hem 21 / President, Education Center for Disaster Reduction, University of Hyogo
～17：00	Summary･Closing	Yoshiaki Kawata Vice Chairperson, DRA / Executive Director, DRI

Opening Greetings

Chairperson, Disaster Reduction Alliance [DRA] / President, Hyogo Earthquake Memorial 21st Century Research Institute [Hem21]

Makoto Iokibe

We expected a warm winter this year, but now a cold wave is sweeping across Japan. Thank you very much for coming to this Forum, despite the unfavorable weather. The Disaster Reduction Alliance (DRA) holds an international symposium annually, and this year, we decided to focus on the concept of "Build Back Better (BBB)" as one of the discussion themes.

In the spring of 2015, Sendai hosted the Third UN World Conference on Disaster Risk Reduction (WCDRR), which was a great success. In the course leading up to this third conference of WCDRR in Sendai, the Hyogo Framework for Action was formulated in 2005, and we then experienced the Great East Japan Earthquake and Tsunami in 2011. The main focus of discussion at this conference was BBB, the concept under which the reconstruction process is utilized as a way to bring the disaster-hit area to a better condition than it was before, rather than merely restoring it to the original state. After this conference, Nepal was hit by a powerful magnitude-7.8 earthquake that radiated from the epicenter directly below. How the global community approaches earthquake-hit Nepal based on the BBB concept is now a high topic of interest to us all.

Following the Great Hanshin-Awaji Earthquake in 1995, the Hyogo Prefectural Government decided to make "creative reconstruction" a key concept to drive recovery efforts. The background behind this decision was a strong objection on the part of the central government at that time in doing more than resolving difficulties or restoring the affected areas to the pre-disaster condition. In other words, the fundamental administrative policy at that time was to focus on fixing what was broken and returning things to where they were before. The government did not think it was its responsibility to build something new in the affected area. Hyogo Prefecture therefore stood up and proposed "creative reconstruction" to fight the government's strong objection in creating something better than before in the affected area, which allows the area to become yakebutori ("get richer after a fire"). Restoring it to the original condition, however, was endorsed by the government because the communities were victims of disaster.

Expressions other than "resolution of difficulties" are used to describe these types of recovery efforts, such as "restoration for improvement" and "reconstruction for improvement," which apparently are accepted also by the government as permissible recovery efforts. I think BBB is a concept that supports "reconstruction for improvement." However, Hyogo Prefecture's request did not represent achieving "reconstruction for improvement." What the municipality wanted was to take this opportunity to newly build the absolute essentials that would benefit local residents and future generations.

Our common sense tells us that this would be difficult to achieve, as it is enormously costly to restore the buildings alone. Conventionally, we had to be satisfied with and be thankful just to see our local cities restored with the support of the government and society. In pre-modern Japan, the support for disaster-hit areas was limited to providing otasukegoya (emergency shelters) and cooked meals. The idea was to offer a temporary place of refuge and food such as rice porridge. However, when the Kanto region was hit by the Great Kanto Earthquake in 1923, Shinpei Goto, then Home Minister, passionately proposed that taking this opportunity, Tokyo should be rebuilt to become a major global city like Paris and London.

Criticized as a "big talker," Goto was ousted. However, it was a group of people trained at the Tokyo Institute for Municipal Research, which was established by Goto with the financial support of the Yasuda Foundation while Goto was the mayor of Tokyo, who later played pivotal roles in transforming Tokyo from a "castle town of feudal times" to a modern city designed with arterial roadways stretching east to west. Even after Goto lost his position as the Home Minister, these people stayed with the Reconstruction Bureau, which was placed outside the control of the Home Ministry as an external bureau, and worked on the transformative reconstruction.

This "creative reconstruction" following the Great Kanto Earthquake was an enormous undertaking, but when the Great Hanshin-Awaji Earthquake occurred, it became a topic of focus again. The Hyogo Earthquake Memorial 21st Century Research Institute [Hem21] was the very organization established to work on creative reconstruction when the central government decided that it would fund just the recovery efforts and nothing more. Under Hem21, two new organizations were formed: the Disaster Reduction and Human Renovation Institution (DRI) and Hyogo Institute for Traumatic Stress (HITS). Also, 18 international organizations including the Japan International Cooperation Agency (JICA) and World Health Organization joined Disaster Reduction Alliance (DRA) as its members, and from scratch, built Tobu-shin-toshin where buildings such as a prefectural museum and disaster recovery public housing are collectively located. This is what we call "creative reconstruction."

On Awaji Island, a complex called "Awaji Yumebutai" ("Awaji Dream Stage") was built in the section that used to be an ugly-looking site for earth excavation. Now it is where nature and people co-exist in harmony, and also a place where people of different cultures come together to discuss various issues at the international conference center. On the north side of Nishinomiya Station, the Hyogo Performing Arts Center was established to serve as a center for enriched living. It is not easy to achieve creative reconstruction, in which we need to create something that did not exist before. The national government objected to our request, but under the leadership of the then Governor of Hyogo, Toshitami Kaihara, and current Governor (then Deputy Governor) Toshizo Ido, we were able to resolve the difficulties and achieve our creative reconstruction.

Now I think that restoring buildings is a very basic form of reconstruction. On the other hand, creative reconstruction could result in facilities that become treasures and assets for local people. They also benefit others globally. The concepts of creative reconstruction and BBB may overlap in some ways and differ in others, but based on my experience with the Great Hanshin-Awaji Earthquake, it's worth the endeavor to pursue full-scale creative reconstruction if you have the energy and resources to do so.

I am grateful to be able to discuss with you and a keynote speaker from Nepal about BBB and how we can heartily provide support as a global community to disaster-stricken Nepal. I sincerely hope that all of you will be active participants throughout this Forum.

Opening Greetings

Governor of Hyogo Prefecture **Toshizo Ido**

On January 17, which was three days ago, we held a ceremony to mark the 21st anniversary of the Great Hanshin-Awaji Earthquake. In Higashi Yuenchi Park located on the south side of Kobe's City Hall, 60,000 people gathered to pay tribute to the victims and to renew their pledge to live vigorously toward the future. It was a very cold day, but people also gathered in front of the memorial monument at the Disaster Reduction and Human Renovation Institution (DRI) located at HAT Kobe to remember the victims and to renew their commitment to disaster risk reduction. Because of Kobe/Hyogo Prefecture's experience, we saw the establishment of DRA and other schemes of disaster risk reduction. On behalf of the people who live in the area that had been affected by the earthquake, I'd like to thank you for making this Forum possible today.

Looking back, I can say that the restoration and reconstruction of this area was materialized through our constant efforts, driven by the encouragement and hearty support of the people in Japan and outside. It was indeed a journey of pursuing creative reconstruction. It was also a totally new challenge for us to embark on various activities, such as offering care service for the elderly, people suffering from traumatic stress and the support for volunteers. As a result, we now have the Hanshin-Awaji Earthquake Recovery Fund, Disaster Victims Livelihood Recovery Support System, Mutual Aid Fund for Housing Reconstruction and other self-help, mutual support and public support systems in place. With no precedent case to build on, we pioneered the creation of a reconstruction model that is now drawing the attention of those involved in disaster risk reduction across the world.

Twenty years after the earthquake, Hyogo Prefecture and Kobe are now launching new initiatives for the future. Our focus is on maintaining the vitality of the community even if the population decreases and creating a new, sustainable Hyogo where hope for the future never expires. To that end, we must first have a solid foundation to ensure safety and security, and then develop various initiatives backed by the foundation. There is a 70% probability of a Nankai Trough earthquake occurring within the next 30 years. Hyogo Prefecture is now working on improving both the soft and hard dimensions, so as to make Hyogo Prefecture a municipality where disaster risk is reduced, disaster is dealt with resiliently, and recovery is achieved quickly.

In terms of "hardware" or the tangible side of preparation, we are improving sea embankments and water gates, taking measures against ground subsidence, and retrofitting houses, buildings with many visitors and public buildings. For "software," it is vital that we perform practical disaster drills on a regular basis. It is also equally essential that we develop measures designed to cover larger areas to prepare for the Nankai Trough earthquake and other wide-scale disasters. It has been five years since we developed the Union of Kansai Governments as a cross-prefectural organization to address the issues of the entire Kansai region. We are now planning to create a repository of damage prediction information and measures against disasters of each prefecture that will serve as a basis for predicting Kansai-wide damage and for designing the area-wide measures.

The Tokyo inland earthquake also has about a 70% probability of occurrence in the next 30 years, as in the case of the Nankai Trough. We need to start discussing a scenario outlining how Kansai can support the Tokyo metropolitan area and also a system whereby Kansai can serve as a backup for the capital function Tokyo now provides, in preparation for such major disasters. We might also want to consider establishing another disaster management center in Kansai. We are now in the process of preparing for formal discussions about these issues.

I personally think the activities of DRA are responsibilities Hyogo must bear, precisely because we suffered a major disaster. Our mission from now on is to promote the support for disaster-stricken areas around the world and disaster risk reduction initiatives, by leveraging our experience and lessons we have learned. With the Disaster Reduction and Human Renovation Institution (DRI) as a hub, Hyogo Prefecture is now networking with the United Nations Office for Disaster Risk Reduction (UNISDR) Hyogo Office, the United Nations Office for the Coordination of Humanitarian Affairs (OCHA) Kobe Office, Kansai International Center of Japan International Cooperation Agency, Asian Disaster Reduction Center (ADRC), the WHO Kobe Centre and other international disaster-risk-reduction-related organizations in Kobe to exchange information and conduct collaborative studies. The activities of DRA are an integral part of this network. HAT Kobe houses the offices of these international organizations and DRA is committed to acting as the driver of collaborative efforts and contributing to disaster risk reductions in Japan and internationally.

In April 2015, we sent physicians and nurses of the National Disaster Medical Center to Nepal soon after the earthquake occurred. Researchers of DRI also traveled to the disaster-stricken area to conduct fact-finding studies and to offer advice on reconstruction strategies based on their case studies on the Great Hanshin-Awaji Earthquake. We also called on the residents of Hyogo to make donations.

In March 2015, the Third UN World Conference on Disaster Risk Reduction (WCDRR) was held in Sendai and saw the adoption of the Sendai Framework for Disaster Risk Reduction 2015-2030 that was formulated based on the Hyogo Framework for Action 2005-2015. I was one of the attendees at the conference. Also in 2015, the DRA Forum had the privilege of the presence of Ms. Margareta Wahlström, the former UN Secretary-General's Special Representative for Disaster Risk Reduction.

Based on the outcome of the 2015 Forum, we made some proposals at WCDRR in March. Firstly, we requested that our concept of "creative reconstruction" be incorporated in various initiatives. We also underscored the importance of local governments' cooperative involvement in disaster risk reductions. Another point we stressed was that improved community-level capacity for disaster risk reduction constitutes the solid foundation for recovery and reconstruction efforts, as communities could act as localized agents of local governments.

In the Sendai Framework, the ideas of reconstruction for improvement and BBB were positioned as key concepts. Although "creative reconstruction" has a broader scope than BBB, we can say that the Framework took a progressive step with the incorporation of the BBB concept. We have learned great lessons on the importance of disaster preparation from the Great Hanshin-Awaji Earthquake and accumulated experiences through other natural disasters that followed. We are determined to continue working on achieving the reduction of natural disaster damage, recovery that is as swift as possible and creative reconstruction.

Opening Greetings

Director, International Cooperation Division, Disaster Management Bureau,
Cabinet Office, Government of Japan

Kaoru Saito

As we open the DRA Forum 2016, I would like to say a few words. From March 14 through 18 last year, the Third UN World Conference on Disaster Risk Reduction (WCDRR) was held in Sendai City. It was the year marking the 20th anniversary of the Great Hanshin-Awaji Earthquake. The Third WCDRR was held 10 years after the Second Conference in 2005, which was held in the very city we are in now, Kobe, with the objective of discussing a new framework succeeding the Hyogo Framework for Action adopted in the 2005 conference.

Under the Hyogo Framework for Action, we saw remarkable progress in global disaster risk reduction in the last 10 years. And today, people from around the world involved in disaster risk reduction are gathered here under the vision formulated in Hyogo, with the notion that Hyogo, the heart of the disaster reduction movement, is the place to gain new knowledge on how we can reduce disaster risks. It is also a place where one can meet a variety of people involved in disaster risk reduction. For the last 10 years, I have viewed Hyogo as such a place.

I must say that the progress achieved thus far is attributable to the combined and persevering efforts of the people attending this Forum today, who are from different parties and organizations. Taking this opportunity, I would like to express my deep appreciation for all the work you have done. I have been attending preparatory meetings and negotiations in Geneva for WCDRR as a representative of the government of Japan, the host country of the Third Conference. There I heard the phrase "Hyogo Framework" so frequently and saw people earnestly discussing what has been achieved under the Framework and what fell short.

The passion I witnessed culminated in the Third WCDRR in Sendai, where about 6,500 people representing 185 countries and regions gathered and resulted in a great success. It was the largest UN meeting Japan has ever hosted, and the government was very grateful for the outcome as a host country. This, I believe, was also attributable to the Hyogo Framework for Action, and I would like to thank you again for your participation.

One of the features of the Sendai Framework for Disaster Risk Reduction 2015-2030 adopted at the Conference, is that it positions initiatives of not only the central government but also of stakeholders as an integral part of disaster risk reduction. These stakeholders include local governments, civil society, industry, media, and academia. In Japan, it has been quite a while since we began addressing the importance of self-help and mutual support activities in improving preparedness for major disasters. Many initiatives have been launched in the country, and globally, we also see the launch of initiatives focusing on the involvement of multi-stakeholders that the Sendai Framework advocates.

The Disaster Reduction Alliance (DRA), the host of this Forum, commenced its activities in 2002, as a collaborative body of organically connected parties formed in Kobe that had experienced the Great Hanshin-Awaji Earthquake. This collaboration between international organizations was one of the harbingers of the Sendai Framework, and it is indeed the fruit of the related parties' steady and consistent efforts. I sincerely hope these initiatives will continue to be carried out and that all members will work together to contribute further to global disaster risk reduction.

Regarding the reconstruction of Nepal, which is our theme today, I first would like to extend my most sincere condolences to the government of Nepal and the people on the loss of many people in the April 25 earthquake. In an international conference on the reconstruction of Nepal held in June 2015 in Kathmandu, the Japanese government pledged a total of more than 32 billion yen in initial aid to Nepal to reconstruct school, houses and community infrastructure. By working with the Nepal government and steadily implementing planned projects, we hope to contribute to the reconstruction of the country.

This earthquake was the first major disaster that occurred after the Sendai Framework was formulated in March. The Japanese government therefore considers its mission to be fully incorporating into its support the concept of Build Back Better (BBB), which the Sendai Framework cites as a key concept. I think it is very timely that the Forum is focusing on the two themes: the reconstruction of Nepal and BBB. The outcome of this Forum will be reflected in the Japanese government's future work for the reconstruction of Nepal.

In closing, may I say that I am sincerely hoping that the Forum will achieve great results through active discussions based on the knowledge and information provided by the different parties attending today.

Special Report

Outcome of the Third UN World Conference on Disaster Risk Reduction and Sendai Framework for DRR

Head, United Nations Office for Disaster Risk Reduction (UNISDR) Office in Japan
Yuki Matsuoka

I am giving this presentation on behalf of the Head of UNISDR Regional Office for Asia and Pacific, Dr. Feng Min Kan, as her official duty made it impossible for her to be here today.

The Asia-Pacific region in which Japan and Nepal are located is the world's most vulnerable area to disasters. In the 40-year period between 1970 and 2011, disaster mortality in this region accounted for 75% of the global total. Data published by UNISDR uphold the trend that the number of weather-related disasters is on the rise, and 2005 marked the highest ever, with 401 events. Asia is the region most severely-hit by weather-related disasters in the last 20 years, in terms of frequency, and the numbers of death and the people affected. Hydrological disasters are the most frequent ones, with floods accounting for 43% of all weather-related disasters.

To achieve sustainable development and society, it is essential that we build resilient communities and have a perspective of disaster risk reduction (DRR) in every stage of the process. I would like to share the six principles for building a sustainable society, which include environmental quality, social and inter-generational equity, quality of life, economic vitality, participatory process, and disaster resilience. Building resilience to disasters is essential for ensuring community sustainability.

The Third UN World Conference on Disaster Risk Reduction (WCDRR) held in 2015 was a culmination of global DRR efforts made during more than the 20-year period. The First UN World Conference on Natural Disaster Reduction was held in Yokohama in 1994, followed by the Second Conference in January 2015 here in Kobe, about 10 years later. The Hyogo Framework for Action (HFA) was adopted as the outcome document of the Second World Conference and it served as a comprehensive global DRR guideline for the last 10 years since 2005. These three conferences took place as official UN conferences and all of them were hosted by Japan.

In an effort to drive forward HFA globally, UNISDR has been organizing a biennial session of the Global Platforms for DRR in Geneva where its headquarters is located. This Global Platform involves not only the central governments but also a variety of stakeholders, including local governments; parliamentarians; private sectors; academia and scientific communities; groups of women, young people, children, the elderly and persons with disabilities; NGOs and civil society organizations; and community organizations. The multi-stakeholder approach of the Global Platform has led the Sendai Framework for Disaster Risk Reduction, adopted at the WCDRR in 2015, to include focusing on the roles of multi-stakeholders.

The WCDRR was a high-level conference, with the participation of official delegates representing 185 countries, including 25 heads of state level and a number of ministers. Registered official delegates totaled more than 6,500 and the cumulative total number of entries (visitors) to the Public Forum came to 150,000. Many meetings and sessions took place, were attended not only by those representing 185 Governments, but also by the members of IGOs, private sectors, local governments, UN entities, media, NGOs and other stakeholder groups. One of the features that gave the WCDRR a high evaluation was its highly inclusive nature, which for example, enabled the participation of persons with disabilities. This was made possible by the cooperation of the Japanese Government, the Nippon Foundation, Sendai City and other parties.

The outcome document of the Conference, "the Sendai Framework for Disaster Risk Reduction 2015-2030" sets out its expected outcome as "the substantial reduction of disaster risk and losses in lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries". To attain the expected outcome, it has set its goal as "prevent and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience." DRR is a highly cross-sectoral issue and the Framework objectives encompass diverse measures to reduce disaster risks.

To achieve these objectives, the Framework presents 13 Guiding Principles and 7 Global Targets. Guiding principles and global targets were not included in HFA. Back in 2005, the crucial objective was to formulate a comprehensive framework and to agree on it, and it was still premature to establish Guiding Principles and Global Targets for implementation.

However, building on various efforts for HFA implementation during the last 10 years since its adoption, concrete achievements and progress paved grounds for devising these concrete Guiding Principles and Global Targets to be included in the Sendai Framework. About 40% of the Sendai Framework is associated with the four Priorities for Action, which are targeted for actions at both national and local/regional levels.

Of the seven Global Targets, four are "reduction targets" and three are "increase targets." The four reduction targets are "mortality (aiming to lower the average per 100,000 global mortality rate)," "the number of affected people (aiming to lower the average global figure per 100,000)," "economic loss" and "damage to critical infrastructure and disruption of basic services."

The three targets to increase are "the number of countries with national and local DRR strategies," "international



cooperation to developing countries," and "availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people."

The Priority 1 is "Understanding disaster risk." In order to take policies and practices for disaster risk management, we must understand the risks, through, for example, collection, analysis, management and use of relevant data. Another example would be a pre-disaster risk assessment with a scope that includes possible sequential effects. Priority 1 also includes DRR awareness-raising, educational activities, and other actions that help us understand disaster risks.

To formulate policies based on an understanding of disaster risks, strengthening of governance and system is critical. Priority 2 therefore focuses on "Strengthening disaster risk governance to manage disaster risk" and recommends actions for mainstreaming DRR within and across all sectors.

Priority 3 "Investing in DRR for resilience" features actions needed for making public and private investments in DRR both in structural and non-structural measures, which should build on an understanding of risks and strengthening of governance.

Priority 4 "Enhancing disaster preparedness for effective response, and to 'Build Back Better (BBB)' in recovery, rehabilitation and reconstruction" focuses on the concept of BBB, which is the key theme of this Forum. It recommends a variety of actions based on the understanding that in order to achieve BBB, response, recovery, rehabilitation and reconstruction must be prepared ahead of disaster and further improved. This would include measures for forecasting and early warning; continuity of operations and planning; evacuation drills; shelters; and food, relief supplies and equipment supplies. Also included are DRR through setting standards for different recovery and reconstruction phases and improvement of land use planning. In addition, Priority 4 mentions enhancing international mechanism such as the International Recovery Platform (IRP).

Next, I would like to discuss how innovative the Sendai Framework is, as it was adopted building on the 10-year progress since the adoption of HFA. While HFA focused on reducing disaster loss, the Sendai Framework goes a step further and focuses on reducing disaster risks. It emphasizes that a people-centered, preventive approach to DRR should be taken. It states that each central Government has the primary responsibility for achieving DRR while multi-stakeholders also have shared responsibility in DRR and that DRR requires an all-of society-engagement and partnership.

Following the four Priorities for Action, the Framework stipulates the role of stakeholders. They show a shift from viewing stakeholders as "victims/vulnerable people" to "agents of change," and place a strong emphasis on empowering and inclusiveness, as well as encourage their voluntary commitment and initiatives in promoting DRR.

Diverse groups are cited as stakeholders in the Framework. I hope you will have a chance to read this outcome document of the UN Conference in your own perspective, as any individuals and groups of people can find their own relevance to the Framework. Media people, for example, will be able to have their own media-related take on the Framework, and I believe NGOs and civil organizations can benefit from it by linking their own activities. A provisional Japanese translation of the Framework has been available on the website, so I strongly encourage you to take a look.

Aside from the Global Platform, UNISDR organizes biennial Regional Platforms. They are organized by each UNISDR regional office. For Asia, since 2005, the year HFA was adopted, UNISDR has been actively organizing the Regional Platform, starting with the first Platform in China, and the sixth Platform in Thailand in 2014. The Seventh Asian Ministerial Conference on DRR as the Regional Platform will meet in November 2016 to reaffirm their political commitment to the implementation of the Sendai Framework and to benefit from mutual-learning opportunities to advance national-level implementation of the Framework in Asia. Since disasters in one region often present similar characteristics, it is vital that the countries within the region take an active part in discussing concrete measures for establishing partnership and collaboration to address common challenges.

Since the adoption of HFA, UNISDR has been providing advice to the governments on progress reporting for HFA implementation and the governments have been asked to submit their national progress reports every two years. UNISDR conducts analysis of these reports and includes some analytical results in the UN Global Assessment Report on Disaster Risk Reduction. The graph in the slide shows the self-evaluation by the Nepalese Government on the progress of its HFA implementation, which reveals an interesting result. For example, for Priorities for Action 2 (risk identification and early warning) and 4 (underlying risk), the Nepalese Government rated levels of progress in some reporting periods lower than the previous periods, from which we can assume that the Government has been identifying new challenges and analyzing its level of progress objectively. It also rated some periods higher than the previous terms. This may be because the Government put efforts on resolving the identified challenges. Self-rating/self-analysis is one of the important aspects of advancing DRR policies and practices. UNISDR is currently engaged in discussions intensively to establish a process of progress reporting for the implementation of the Sendai Framework.

Special Lecture

Damage and Recovery Status of the Nepal Earthquake and Future Perspectives

Joint Secretary, Ministry of Urban Development, Nepal

Padma K Mainalee

Nepal is considered to be the 11th most earthquake-prone country in the world. Throughout its history, it has recorded periodic earthquakes. In 1255, an earthquake killed one-third of the population of Kathmandu. More recent earthquakes that have caused severe human and physical losses occurred in 1934, 1980, 1988, and 2011.

The 1934 earthquake, known as the Bihar-Nepal Earthquake, registered a magnitude of 8.4. It killed more than 8,000 people and destroyed more than 200,000 buildings.

The 1988 earthquake registered a magnitude of 6.9. It killed over 700 people and destroyed more than 6,500 buildings.

The Gorkha Earthquake, with a magnitude of 7.6, struck just before noon on April 25. The main aftershocks occurred the next day and 25 days later on May 12.

The first earthquake epicenter was in the Barpak and Gorkha districts in northwest Nepal. The hypocenter was at a depth of approximately 15 kilometers. More than 400 aftershocks with magnitudes greater than 4.0 were recorded. The main quake had a maximum Mercalli Intensity of IX (violent). Thirty-one out of 75 districts were affected, which is around 40% of the country. Fourteen of these districts were declared to be 'crisis-hit' with the aim to prioritize the rescue operations there. Almost 9,000 people were killed and over 22,000 injured.

In an instance, hamlets were flattened or disappeared under mounds of earth. In the capital, Kathmandu, hundreds of buildings collapsed or were damaged. Archeological masterpieces were reduced to rubble. UNESCO World Heritage Sites suffered extensive damage. Hundreds of other historical monuments lay in pieces. Beyond the human loss, the quake had shaken to the core the very foundation of a civilization.

Hospitals and health facilities struggled to deal with the overflow of patients. Makeshift treatment camps were set up. The tremor had caused roads and alleys to crack. Electricity and drinking water supplies were disrupted. Temporary cities emerged in whatever available open spaces could be found.

People started fearing the worst had yet to come. Inside the crowds of people was hiding a less visible tragedy: psychological trauma. Many of those taking refuge had lost family members, others had lost their homes. It was one of the largest earthquakes in Nepal's recorded history, the biggest in 81 years and the most costly devastation Nepal has witnessed.

Given the enormity of the disaster, it proved a formidable challenge for the government. It had never previously experienced such mammoth disaster. In the immediate aftermath, an emergency cabinet meeting declared a state of national emergency in the earthquake-hit areas. State mechanisms were brought into immediate action. Bureaucracy engaged itself in planning and in facilitating administrative tasks.

In the wake of the tragedy, Prime Minister Sushil Koirala cut short his official visit to Indonesia and returned to his people. A call for calm was made through a televised address. Parties came together to support and oversee the rescue and relief operations. The Nepalese army led the operation that included the Nepal police force and over 4,000 military personnel from 18 countries. Volunteers flocked to the devastated areas.

The international community responded to the call for humanitarian support. Within hours of the catastrophe, rescue and relief missions from neighboring countries had landed at Tribhuvan International Airport. Friendly nations, development partners, aid agencies, and organizations rushed their relief and rescue support.

Billions of dollars are required for rebuilding and reconstruction. Beyond the infrastructure damage there was an immediate need to restore trade, livelihoods, finance, and tourism-related activities to prevent any future financial crisis. Tourism hubs looked abandoned, schools were conducting classes under temporary shelters, and financial activity plunged. The geological danger has far from past and hundreds of thousands of villagers are still in dire need of resettlement.

Regarding reconstruction, a holistic kind of thinking is needed as it was not only the structures and the materials used for construction that failed, but also the buildings with concrete owing to geological reasons.

Many settlements have been devastated. However, this devastation does not only apply to the dwelling units but also to the loss of local identity. It also raises the challenge of a new urban development agenda with respect to the migrants in market centers and urban areas.

Looking closely at the causes for such large-scale damage, it can be seen that national building codes were not enforced by the majority of local governments and municipalities, there were weak enforcement mechanisms of local bodies for bylaws and building codes, there was a lack of monitoring of building construction, there was a lack of awareness by the general public towards earthquake-resilient construction, people could not afford resilient technologies, and the poor construction quality and workmanship. This applies more to rural districts than urban districts. In urban districts, people were injured, because the construction technologies in urban areas are far better than that of the rural areas.

A total of 605,000 buildings completely collapsed and around 300,000 were partially destroyed. In six districts, 90 to 100% of the building stock collapsed. This means even the concrete buildings as well as the wooden mud buildings collapsed. More than 6,000 government buildings either completely collapsed or were partially destroyed. In addition, 57 monuments within the Kathmandu Valley collapsed, which is more than 60% of the total.



In the education sector, over 16,000 schools were affected, including damage to classrooms and water systems. Thirty-two teachers and 227 students were killed, respectively. The damage to health facilities was also high.

The government of Nepal conducted a Post-Disaster Needs Assessment (PDNA) to assess the impact of the disaster, define a recovery strategy, including funding implications, and the rehabilitation and restoration of housing and infrastructure to ensure a resilient recovery.

The National Planning Commission was the leading agency involved, working with the Sectoral Ministry and various development partners including the UN and the EU. The assessment was completed on June 10, in time for the International Conference on Nepal's Reconstruction on June 25, 2015.

The PDNA basically covered four types of sectors: the social sectors, productive sectors, infrastructure sectors and cross-cutting sectors. These sectors covered a total of 23 thematic areas, including housing and settlements, the single area most badly affected by the disaster.

Taking into account such factors as the type of building, the average size, and clearing and demolition costs, the core cost per house will be $40,500. The estimated number of workdays needed to complete the rebuilding is 415 million over five years, involving 50,000 builders.

Immediately after the earthquake, that is the first 24 hours, temporary camps and shelters were set up in the Kathmandu valley, along with coordinating the delivery of basic services, such as non-food items. This was then followed by starting preparations for recovery such as conducting detailed damage assessments, forming Camp Coordination and Camp Management (CCCM) clusters and publishing guidelines for such things as Grant Distribution Procedures and the Earthquake Resistance Housing Design Catalog.

From early June, the first Displacement Tracking Matrix showed that over 66,000 people in 14 districts were in 146 displacement sites. By mid-November, this figure was reduced to 40,700 people. The numbers decreased but there are still more around displacement 100 sites.

In the emergency, the issues faced were lack of effective coordination between the government and humanitarian agencies; an absence of a coordination body at the district-level; that some agencies were not following government directives; relief distribution was unequal, and in some cases, areas received supplies twice; difficulty in reaching remote areas; a customs duty was levied by the government on relief items; and people had already started to construct permanent houses.

However, in the emergency, certain issues were resolved such as coordination efforts being improved through the government of Nepal's agencies and shelter clusters in disseminating information/directives; the government of Nepal and shelter clusters appointed district focal points for coordination in all 14 districts; agencies were provided with strategies and guidelines by the shelter cluster based on government directives; and the agencies were advised to follow guidelines produced by the government of Nepal and shelter clusters.

The problem is not one of structure and geology. It's a problem of quality, and this problem really needs to be strengthened at the local and personal level. Some of the concrete buildings are still standing, but all the wooden constructions were destroyed. Even the wooden buildings with gables were not protected against the earthquakes.

Another problem exists in that people started building their houses wherever they wanted, basically, wherever they could build them do. So many of the farms are without any infrastructure such as water. There is also a scarcity of materials, even in towns and urban centers.

The government really needs to establish earthquake-resilient housing units. The use of reinforced concrete must be promoted, while buildings made from such materials as slate and mud should be discouraged, because these are low strength buildings. Advanced technologies for strengthening buildings should be promoted.

In emergencies, good practices were put in effect. These included, government-led efforts; the tracking of all shelter activities of partners; developing common approaches, strategies and packages to support the government of Nepal's efforts; identification of gaps and priorities; endorsement of standard building bylaws; and the availability of adequate manuals, directives and drawings to kick off the recovery and rehabilitation process.

For the way forward, certain key actions were agreed upon. These actions included to focus on urban areas and building bylaws; to establish a long-term shelter cluster team; to map the private sector/civil society; to discuss with agencies about the dispersal of stocks and funds; to prioritize local transportation methods; to make sure decisions made by central government are passed on to the district-level authorities for effective coordination; to make sure there are dedicated staff essential for disaster response both at the government level and humanitarian agencies at both central and district levels; that all agencies strictly follow government directives; and to produce adequate and clear policies and legal provisions

The following guiding principles form the basis of the strategy and planning for post-disaster recovery: encourage the participation of communities by empowering them to take control of reconstruction of their houses and ensuring facilitation of owner-driven reconstruction; create a comprehensive view of housing reconstruction to include holistic habitat development, with basic services and community infrastructure; ensure that the principle of build

back better (BBB) should translate into the concept of safer settlements; reconstruction should be seen as a vehicle to building long-term community resilience by reducing vulnerabilities and strengthening community capacities to mitigate future disasters through improved construction practices for the majority of the building stock in the country; strengthen the local economy through reconstruction and processes that work to benefit the poor and marginalized sections who are mostly in the informal sector; reconstruction should provide an opportunity for the poor to upgrade their living conditions; ensure sustainable and environment-friendly reconstruction processes, taking note of climate change, natural resource management and scientific risk assessments; and ensure that rehabilitation is equitable and inclusive

The guiding principles for reconstruction are to adopt a centralized coordination policy, but also follow decentralized implementation through district- and local-level organizations; adopt a build-back-better approach for reconstruction; use local materials, local skills, knowledge, architecture and technology as much as possible; use an owner-built approach for private buildings while government and public buildings will be constructed by government agencies; construct such buildings with disabled-friendly and child-friendly features; construct residential and public buildings with earthquake-resistant features; make the house-owners and stakeholders aware of earthquake-resistant construction technology; use high-quality materials, furniture and furnishings produced in Nepal; mobilize various parties including political parties, NGOs and religious organizations in line with government policy; adopt uniformity in relief and compensation from the government to be provided to the affected people; use transparent methodologies for distribution of such materials; identify disabled people, pregnant women, single women, marginalized people, children in peril, senior citizens, etc., in the affected districts and formulate special programs for their relief and rehabilitation; keep intact the feelings of national unity, social integrity and endurance observed during rescue, relief and search for earthquake-affected people; use the support and aid provided by development partners in the reconstruction of large-scale structures.

The government of Nepal has formed the National Reconstruction Authority (NRA) to comprise of a CEO and other experts. A draft version of the Policy on Post-earthquake Recovery and Reconstruction. The policy is based on 'a centralized coordinated policy and decentralized programs'. Thus the reconstruction programs will be implemented by various government agencies in which the NRA will have a chief role.

Work in progress regarding reconstruction and recovery includes formation of an integrated settlement development study and recommendation committee, formulation of guidelines for the distribution of compensation, training on earthquake building construction and approval of proposals for operation on earthquake-affected buildings.

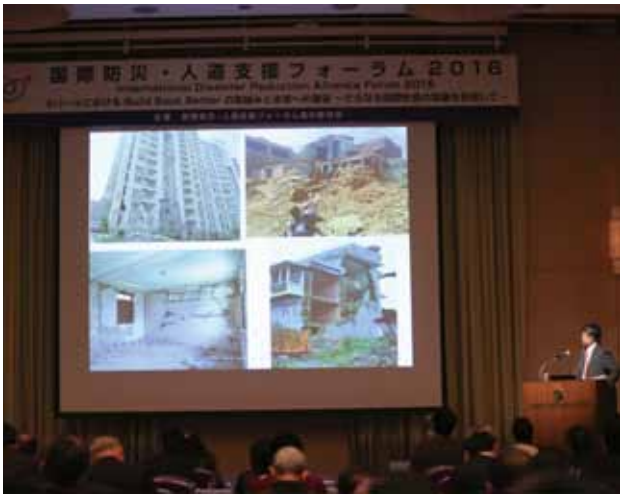
Revisions of building bylaws, the preparation of catalogs of earthquake-resistant buildings, training programs for capacity building for such people as mason training and technicians, and awareness building for householders, and revisions have been made to the National Building Code.

In addition, the National Plan of Action for safer building construction is now in place. The plan coordinates various activities carried out by different stakeholders under one policy. A vocational training institute is helping to train 50,000 builders to work in the earthquake-affected regions; there are also training programs for other fields such as engineers and house owners. Technology transfer on earthquake-resistant building construction is being planned through various programs.

There are various issues and resolutions to be solved. Nepal has a large shortage of good construction materials and skilled labor. The latter will be tackled by capacity building programs, for which the Japanese and New Zealand governments and JICA have been providing support. Another issue is technology transfer. The buildings need to be better built, that is, earthquake-resistant, than the ones they are replacing.

As per the PDNA report, $7 billion is needed for reconstruction. Money pledged so far is $2 billion from the Nepal government, $200 million from the World Bank for housing, and $100 million from the government of Japan, also for housing. In addition, many NGOs and other agencies are involved in reconstruction work, especially in the housing sector.

To briefly summarize some of what has been achieved, is the first implementation of the Sendai Framework 2015, an academic approach on settlement recovery and reconstruction, enhancement of building code implementation and community empowerment.



Panel Discussion

Transfer of Japanese BBB Experiences to Nepal

● Facilitator

Vice President of Hem 21 /
President, Education Center for Disaster Reduction, University of Hyogo

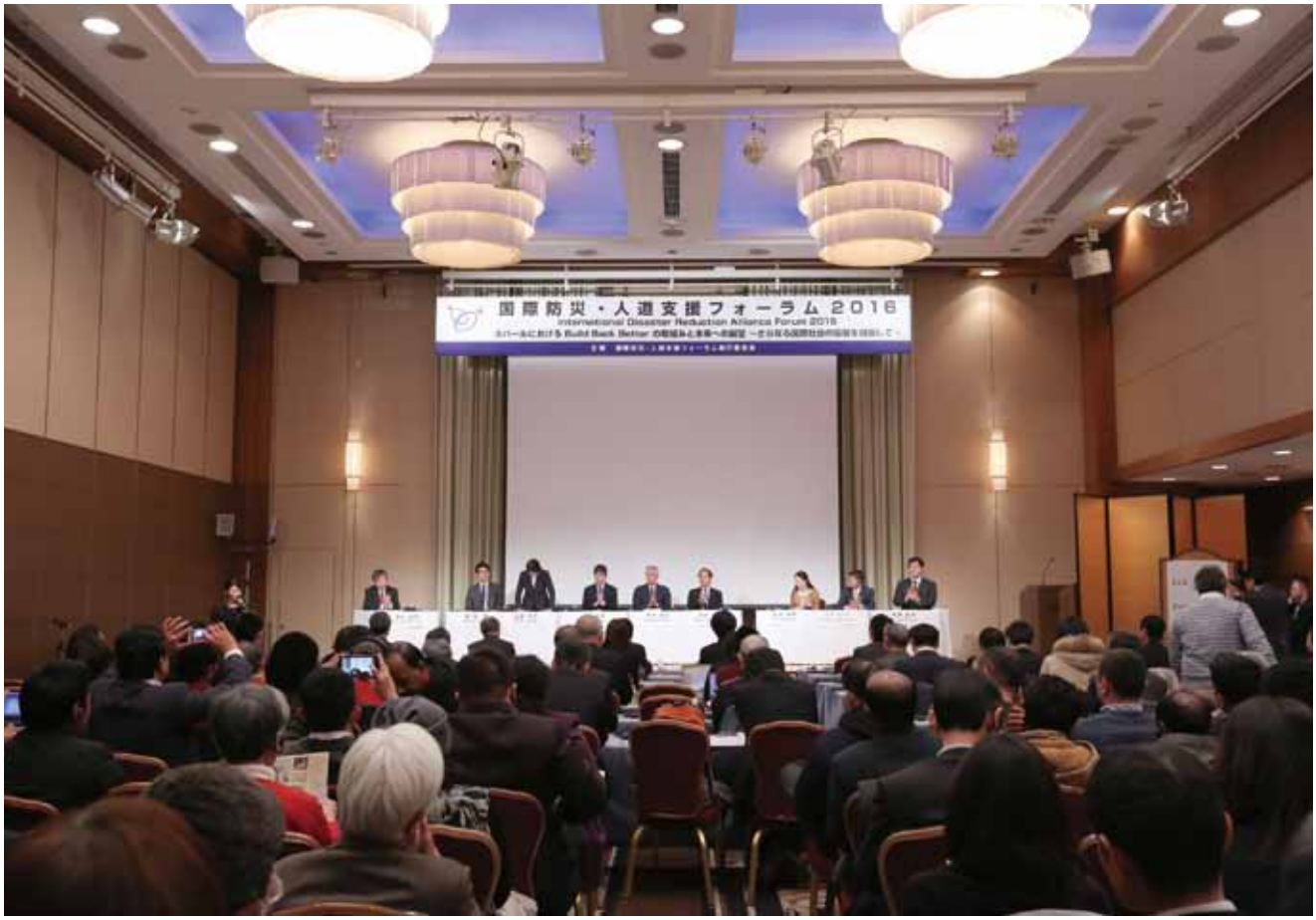
Yoshiteru Murosaki

I would like to share the three main purposes of this panel discussion. The first purpose is to discuss how we can bring together knowledge of Japan and knowledge of the world, and support the reconstruction of Nepal, which has just begun.

Secondly, since Build Back Better (BBB) was a pivotal underlying concept of the World Conference on Disaster Risk Reduction last year, we need to find out what concrete measures would make the reconstruction BBB oriented and set a clear direction for BBB-oriented reconstruction.

Thirdly, we need to plan how we are going to drive forward inter-sectoral cooperation and partnership through the support for Nepal. We also would like to discuss what kind of partnership will promote such cooperation. HAT Kobe is home to many international organizations and research institutes. We would like see the cooperative and collaborative relationship improve by supporting Nepal together.

Time is limited, so let's listen to the presentations of the panelists.



Director, Infrastructure and PeacebuildingDepartment/Urban and Regional Planning Development Group, Japan InternationalCooperation Agency [JICA]

Susumu Yuzurio

I would like to make a presentation on the emergency response and reconstruction interventions for the Nepal Earthquake by JICA and the Japanese government; an overview of the government's assistance; JICA's strategy; and both an outline and details of JICA's interventions.

On June 25, 2015, two months after the Nepal Earthquake, JICA and the Japanese government conducted a seminar on the "Build Back Better (BBB)" concept in Nepal. Its objective was to elucidate the BBB concept on which the assistance will be based and share the direction of reconstruction efforts for response to earthquake and disaster among related parties. In conjunction with the Japanese Ministry of Land, Infrastructure, Transport and Tourism, experts and university researchers were sent to Nepal to discuss how BBB could guide the reconstruction programs. Because schools, housing, and community infrastructure were the most severely damaged, they were made the focus areas of assistance, and funds were allocated accordingly. Immediately after the earthquake, an emergency relief team that conducts search and rescue was dispatched to Kathmandu, followed by teams of medical professionals and the Japan Self-Defense Forces, as Japan's emergency response and humanitarian aid.

JICA's cooperation strategy for reconstruction, designed to improve the original condition and lead to the creation of a resilient society, has three points of focus. The first point is to share Japan's experiences in disaster risk reduction and reconstruction efforts with our Nepali partners. We also made it Japan's policy to materialize the BBB concept in rebuilding the affected area, based on the Sendai Framework for Disaster Risk Reduction that was adopted at the UN World Conference on Disaster Risk Reduction (WCDRR) held in Sendai. This was the first implementation of assistance incorporating the BBB concept after the WCDRR was held in Sendai. We plan to provide assistance in the tangible dimension ("the hardware side") as well as various other areas including community support ("the software side").

The second point is to leverage synergy effects between hardware and software dimensions. JICA, as you may know, has already developed various schemes of cooperation in supporting reconstruction efforts, including financial, technical and grass-roots-level supports. These schemes aim to generate synergy effects between the two dimensions of reconstruction efforts, by supporting them to interact seamlessly and organically.

The third focus is to strengthen Japan's coordination with development partners to improve effectiveness of the use of aid. To achieve this, cooperating and collaborating with the World Bank, the Asian Development Bank and other development partners is a prerequisite, but we also consider cooperation of and collaboration with the Nepal government and local communities an integral part of the reconstruction process.

Because we place importance on collaborating with them, when sharing Japan's experiences and utilizing them, we must fully incorporate local and customary knowledge, given the fact that the Nepali people live very differently from the Japanese people and thus upcoming reconstruction efforts will take a very different course. It is important that the two sides work side-by-side locally, put their heads together, and develop a new model of reconstruction.

JICA's assistance is comprehensive and encompasses different sectors. It includes the reconstruction of infrastructure; formulation of a policy vision that serves as a reconstruction framework; livelihood support; preparation of disaster risk reduction programs for future disasters; and reconstruction support for housing, schools, hospitals and other public facilities. Regarding BBB, we will incorporate the concept in the plans for enhancing Nepal' s resilience, and in the grand plan. We also plan to offer support for constructing houses with basic aseismatic design and for devising various reconstruction methods for housing, based on the BBB concept.

To promote seamless cooperation, we sent an emergency relief team—Japan Disaster Relief (JDR) team—to Nepal, as an emergency intervention. Then, we organized a BBB seminar with related parties to share our reconstruction concept as part of the support. In addition, we conducted a set of emergency surveys in Nepal to identify the needs of different sectors and to sort out the priorities. Based on the analysis of the survey results, we devised concrete reconstruction plans. These will be implemented in the following order: Devising a grand plan reflective of the BBB concept, planning for enhancing the resilience of Nepali society, reconstructing housing and schools, and devising measures to prepare for the next earthquake.

The survey results showed that the greatest needs were in housing, as damage to houses accounted for about half of the total amount of damage. This was followed by damage to school buildings. These two are therefore identified as priority areas.

More than a dozen years ago, JICA conducted a disaster risk assessment of Nepal in conjunction with university researchers, and with the occurrence of a major earthquake this time, we decided to conduct another one, in order to perform a more detailed assessment of the country's vulnerability. Based on the results of the new assessment, we are going to devise plans to make Nepal more resilient against disasters, and to drive reconstruction efforts in rural areas, as well as the promotion of new land use and reinforcement of infrastructure.

More specifically, to improve the "hardware side," we are implementing projects to rebuild community infrastructure such as hospitals, bridges, water treatment facilities, housing and schools, after defining clearly our approach toward the projects and based on the plans for resilience-building and rural area reconstruction.

The Japanese government has been spearheading the resilience-building planning. We are currently discussing how we should carry out various projects according to this plan focused on making Nepali society more resilient in terms of sustainability and feasibility.

The severest damage to housing was intensively seen in traditional village housing built with mud mortar. This suggests that the low-income group was severely hit. The enormous challenge lies in how this group can utilize investment and technology to make its housing more resilient against disasters.

A 12-billion-yen assistance for housing was financed by a yen loan. For schools, which have experienced as equally severe damage as housing, reconstruction projects will also be financed by a yen loan. It is planned that this assistance for schools, however, will be co-financed with the Asian Development Bank.

In supporting the reconstruction of community infrastructure, our assistance will include supplies of equipment, with an emphasis on providing medical equipment to healthcare institutions. Also included in our plans are the rehabilitation of water supply facilities in Chowtala and Sindhupalchok Districts, and the rebuilding of bridges in Gorkha District.

Executive Director, Asian Disaster Reduction Center [ADRC]
Kyoko Kondo

In 1998, ADRC commenced its activities with its office located within the Disaster Reduction and Human Renovation Institution (DRI) at HAT Kobe. Since then, HAT Kobe has attracted many international organizations, which we consider as a successful case of achieving BBB. So far, 30 countries have joined ADRC including Nepal that has been our member since the inception. Today, countries of Caucasus and Central Asia are active members as well. This year, in February, the Asian Conference on Disaster Reduction 2016, our annual gathering, will take place in Phuket, Thailand to discuss mega disasters including tsunami risk reduction and so on.

Our main activities include sharing of disaster reduction information, mainly via its website where country reports and other relevant information are uploaded. Regarding human resources development, we have been inviting disaster risk reduction (DRR) specialists from member countries as "ADRC visiting researchers" so that they could stay in Hyogo and study DRR in Japan. ADRC has co-operated with the Japan International Cooperation Agency (JICA) in organizing various seminars on DRR. In addition, we have collaborated with member states and international organizations to drive various DRR initiatives forward. we find it extremely valuable to share lessons learnt of the Great Hanshin-Awaji Earthquake among our member countries with diverse backgrounds.

We have learned that Nepal had long been committed to anti-earthquake measures even before the April 2015 earthquake. In the past, with the objective of reducing earthquake risks of Nepal, ADRC conducted experiments of pulling down buildings to verify the effectiveness of seismic retrofitting. From Nepal, eight researchers have visited Japan as visiting researchers so far. We invited relatively young researchers and some of them now serve as senior level officials at DRR organizations in their home countries. The network of visiting researchers is truly an indispensable asset for us.

According to the UN population prospects, Nepal will see a rapid decline in total fertility rate, a similar demographic shift to what Japan experienced immediately after WWII to the 1950s. It implies that the number of family members will fall, leading to a significant changes in family structure, lifestyle, social structure, and working style. When planning BBB on a long-term basis, and the disaster reduction of a country as a whole, we must first consider what kind of society the country they wish to create and to move towards. DRR efforts should be well adapted to the country's vision for a future society by integrating development and DRR.

At the process of a progressive urbanization, areas with high risk including those on the slopes and other spots unsuitable for housing, may attract large populations and could rapidly be developed. Many of the Asian countries are seeing this happening including Nepal. I am confident that both structural and non-structural measures are indispensable and the latter should be tackled both by the communities and local governments as well as by the national government.

Nepal, characterized by its diversity of the geography, in particular, the huge mountains, and that of natural disasters, is now facing the enormous challenge of building resilience while promoting economic growth and development. Another challenge includes improvement of governance or how to elaborate collaboration between the government, local governments, private sector, and communities. As we are used to think how to turn the adversity into an opportunity when a disaster hits Japan, isn't it possible to use disasters as positive opportunities to improve governance?

Driving BBB forward when the population is growing is a "favorable opportunity" in some sense. While Japan has entered a phase of seeking for safer life while its population is shrinking and graying, for countries in the developing stage, achieving BBB should bring a different kind of opportunity.

ADRC will celebrate the 20th anniversary in three years. For these two decades, not only Nepal but also other Asian countries that have become significantly wealthier, may face new needs, completely different approaches to DRR and new challenges. We are always hoping to continue discussing what is necessary for the next stage, together with people from Asia, Hyogo Prefecture, and those who are working with ADRC for DRR.

Senior Recovery Expert, International Recovery Platform [IRP]

Shingo Kochi

In November 2015, I visited Nepal for a meeting that discussed support for the reconstruction following the earthquakes in April 2015. My visit was an opportunity to see the impacted areas and people in the communities. I encountered local individuals in their traditional greetings, "Namaste" with their hands clasped in front of their chests and bowed to show respect to the person they are talking to. I observed that this "Culture of Namaste", mountain worship, bowing to show respect, and the sense of awe to nature have so much resemblance with Japanese culture.

Yet, when I observed further, the resemblance between Nepal and Japan is not only found in culture, but also, in the geographical conditions and the challenges for long-term reconstruction efforts following a disaster. Firstly, the conditions during the occurrence of the Nepal Earthquake on April 25, 2015 are very much similar to the conditions during the occurrence of the Great Kanto Earthquake on September 1, 1923. Both earthquakes occurred during lunchtime – 11:56 in Nepal and 11:58 in Japan; the magnitude of the earthquakes is almost the same – 7.8 in Nepal and 7.9 in Japan; and the impacted areas are both in highly-crowded places – Durban Square in Nepal and Asakusa/Ueno in Japan. With these conditions, anybody can imagine the levels of impact to people, physically and emotionally.

Secondly, in terms of depth of hypocenter, the Nepal earthquake was reported at 15 km, which is about the same as the Great Hanshin-Awaji Earthquake in 1995 at 16 km. As such, damage to buildings were much severe in these areas compared to other earthquakes of similar magnitudes.

By noting these similarities, I believed that Japan's experience in recovery is useful for Nepal, especially in providing examples on addressing recovery challenges as documented by the International Recovery Platform (IRP). About a quarter of the 28 million people in Nepal is said to be in the poverty group. The fact that about 9,000 reported casualties were from the farming areas suggests that Nepal has been already facing a big challenge in infrastructure improvement as well as land development. Nepal needs to address these challenges squarely along with other compelling reconstruction issues to achieve sustainable, resilient long-term recovery.

Large-scale natural disasters are likely to cause secondary hazards. The Government of Nepal is currently suffering from energy shortage, and when I visited the impacted areas in November 2015, its citizens were experiencing serious shortage of gasoline that apparently cut down the number of public bus operations. Once the buses arrived, people immediately jumped-in, packing the buses up to roofs.

In recovery process, IRP advocates that both hardware and software dimensions of reconstruction must go hand in hand, like two wheels on an axle. The medium-term and long-term reconstruction activities need to incorporate the concept of "Build Back Better" to attain a situation better than the pre-disaster condition. In promoting this, IRP implements human resource development programs, develops tools and knowledge products, trains government officials engaged in recovery, offers recommendations at multi-sectoral international conferences and expert meetings, compiles reconstruction reports, and facilitates dissemination of educational materials on recovery.

Regarding multi-sectoral international conferences and expert meetings, IRP primarily shares information on the various initiatives led by Japan and lessons learned from the Great Hanshin-Awaji Earthquake in 1995 and the Great East Japan Earthquake in 2011, as well as the process through which disaster recovery planning is formulated.

As regard human resource development, IRP has been offering technical support programs to more than 35 countries to date, and the version specific to Nepal's reconstruction is in the planning stage. In 2015 alone, IRP organized three "Workshop on Disaster Recovery Planning" in Dhaka, Bangladesh that were participated by government officials. The materials used at these workshops were developed by IRP, and published along 12 thematic areas, namely: private sector, infrastructure, shelter, environment, climate change, governance, livelihoods, gender, health, psychosocial, pre-disaster recovery planning, and telling live stories. These publications offer lessons on recovery, including mostly from Japan experience. These publications also contain analyses and case studies, and have been disseminated to forward DRR and reconstruction efforts, multi-dimensionally and strategically.

More than 1,100 government officials engaged in DRR have participated in the IRP human resource development programs. In addition to the lessons on recovery from Hyogo Prefecture and Japan, including the legal and administrative supporting systems, IRP also puts emphasis on the process through which these laws were established, how architectural standards were revised/updated to make them more rigorous, how the prevailing mindset could be changed to comply with laws and regulations, how information could be disseminated countrywide, and how the level of awareness and momentum for DRR in the country could be increased. Most importantly, IRP emphasizes how the country could eventually mature in terms of disaster preparedness and become more resilient to disasters.

DRR and reconstruction encompass a wide range of disciplines: public administration, legislation, seismology, earthquake engineering, hydrology, meteorology, urban design, civil protection, and others. It is vital that stakeholders of diverse backgrounds come together on the same platform to lead DRR. With this consideration, the DRA Forum this year is a reminder to me of how deeply meaningful and highly valuable this gathering is.

IRP is committed to future-looking and strategic operations to achieve "Build Back Better" initiatives in Nepal and to working towards a better future—our theme today.

Associate Professor, Education and Research Center for Disaster Reduction, University of Hyogo

Ryosuke Aota

The theme of my presentation is "Disaster Reconstruction Support to Nepal by 'Team Hyogo'." As we all are aware, people in Hyogo Prefecture are very active in supporting disaster-stricken countries outside Japan. Not only the prefectural government, but also Citizens towards Overseas Disaster Emergency (CODE) and other voluntary organizations have sent their support teams to places affected by the 1999 earthquakes in Taiwan and Turkey, the 2004 Sumatra-Andaman Earthquake, and other sites overseas. Many NPOs and public body teams are working for Nepal today, which shows how dedicated people in Hyogo are.

We hope to strengthen the ties between these resources. They do not necessarily have to be united as one team, but if they could cooperate within their capacity and keep on sharing information beforehand, they could prevent overlap or blank of support, and create synergistic effects. We would like to encourage them to achieve multiplication of synergistic effects, so that it will be more than 2+3=5, and become 2×3=6.

In September 2015, we conducted a research program that served as a starting point for such collaboration. Participants included the University of Hyogo, Disaster Reduction and Human Renovation Institution, Emergency and Rescue Team by School Staff in Hyogo (EARTH) of the Hyogo Prefectural Board of Education, Hyogo Earthquake Memorial 21st Century Research institute, and Kobe University, and we conducted research in Kathmandu, Bhaktapur, and the Nuwakot District. Our focus this time was to study the damage at primary schools, secondary schools, higher secondary schools, and universities, and to hold a presentation on the lessons learned from the Great Hanshin-Awaji Earthquake at Khwopa Engineering College.

For the study, we had three viewpoints: First, we should not complete support with rescue and relief activities. We must disseminate the lessons learned from the Great Hanshin-Awaji Earthquake and support the reconstruction on a long-term basis. Secondly, we should offer support to sustainable development in the society, which means to offer support in a way that helps the country achieve self-reliance, improves the government's capacity, and empowers the people affected by the disaster. Thirdly, we should coordinate receiving and providing support. This means that the provider side should not push its judgment based on its stance, but take into account the recipient's history and culture when offering support.

Based on these basic viewpoints, we supposed four supports for developing sustainable communities and human resources. The first is support for school disaster education. Using schools as a base, we aim to develop human resources at the community level. The second support is developing the earthquake resistance of buildings, land readjustmen, and other methods to create disaster resilient communities. The third support s to pass down the lessons learned from disasters. The fourth support is to study the system and institution of the country to provide appropriate support.

The first focus for disaster education is development of buildings' earthquake resistance and education. It is of course important to reinforce school buildings against earthquakes, but education to spread and promote earthquake resistance initiatives is equally vital. The second focus is to ensure that appropriate response takes place in the event of earthquake and that such responses are taught widely. It has been reported that when the earthquake hit Nepal this time, some children who were out in the school ground rushed into the school building and hid themselves under the desks, which resulted in increased casualties because the building later collapsed. If this was the result of teaching them to go under the desk wherever they were if an earthquake hits, then their patterns of thinking should be replaced with correct knowledge and they should be taught the way to perceive the situation correctly and make appropriate judgment under the given circumstances. The third focus is psychological care. For children who experience loss of family members or injuries themselves, disaster education immediately following the disaster may have adverse effects. Disaster education should be conducted along with care for their hearts.

An international organization is planning to reconstruct hundreds of schools, but it is impossible for us to do something similar. We consider our role to be supporting efforts in helping the communities understand the benefits of earthquake resistance measures by collaborating with NSET-Nepal and other local groups.

Regarding the need to develop a program that provides both psychological care and disaster education harmoniously, we are considering adapting a program called "trauma counseling" being conducted in Sri Lanka by Mr. Suwa, our member, in cooperation with Kobe Gakuin University and creating its Nepal version.

We are also considering designating a pilot school that offers a combined program of developing the earthquake resistance of school buildings and disaster education, and start popularizing the program from there. We have a vision that if we can work with the international organization planning the grand-scale school building reconstruction, we can support local disaster education in both the hard infrastructure and soft measure dimensions.

The University of Hyogo hopes to continue with its research on appropriate support to achieve sustainable society in the post-disaster period and on an effective support process not only applicable to Nepal but also to other countries. We have already established the Global Academic Network for Disaster Reduction and Reconstruction with many universities overseas.

We hope to use it effectively to expand our support efforts.

Director, Research Department, Disaster Reduction and Human Renovation Institution [DRI]

Masahiko Murata

I have visited Nepal about seven times in the 14-year period, during which I worked for three members of the DRA: the Asian Disaster Reduction Center (ADRC), International Recovery Platform (IRP), and DRI that I currently work for. Today, I would like to take this opportunity to share how DRI and other DRA members have been carrying out projects before the earthquake and initiatives in the post-disaster period.

You can find a memorial monument in Kathmandu erected in remembrance of the Nepal- Bihar Earthquake in 1934, to pass on the lessons learned. We recognized this monument when we visited Nepal as part of our research on various facilities and monuments around the world built to pass on the experiences of disasters, and studies on related activities. It was a research conducted for the Second DRA Forum that was held in 2003 under the theme of "Transfer Lessons of Catastrophic Disasters" and the research was conducted prior to and after the Forum. Through this occasion, we were able to form ties with an NPO, National Society for Earthquake Technology-Nepal (NSET-Nepal), and the executive director of the NPO, Mr. Amod Dixit, was invited to be one of the founding members of TeLL-Net (Transfer Live Lessons Network), an international network to transfer experiences and lessons of disasters across borders formed after the Second World Conference on Disaster Risk Reduction in Kobe in 2005.

The hexagonal monument is covered with inscriptions in Nepali about the earthquake. An interpreter translated the inscriptions for us when we visited there as Team HYOGO this time, and it said that after the earthquake the concept of Build-Back-Better was put into practice for housing reconstruction when no-interest, four-year loans were provided and the people affected by the earthquake were able to build bigger and more comfortable houses than their original homes.

After four years, there were some cases where low-income families had to sell their new houses in order to pay back the loans. Disturbed by the situation, the prime minister of Nepal then made them exempt from paying back the loans and reimbursed the money to those who had already paid it back. Words of gratitude for the prime minister's decision were inscribed on the monument. It also told us that various measures, which could also be implemented today, such as eased tax for daily necessities, were already in place 80 years ago. This monument is a remarkable resource of information, serving as a valuable story-teller. We were also able to hear how this monument with the past experience are used in Nepali society today.

In January, the month when the Nepal-Bihar Earthquake occurred, an annual memorial event is held with state-sponsored programs, parades and workshops. Kathmandu, Bhaktapur, and Lalitpur take turn to host the events. Some commented, however, that because it has been 80 years, people do not remember the earthquake first-hand, and they feel it is no longer relevant to their lives. Many also feel that because such a major earthquake occurred this time, Kathmandu is free from earthquakes for some time.

The experience of the Nepal-Bihar Earthquake in 1934 was not taught in schools and most of the people who were asked about this earthquake had no knowledge of it. I felt, after 80 years, the experience and lessons are escaping from people's memory. A high-ranking official of the Nepali Ministry of Education who visited Kobe said to me that Nepal needs a facility like DRI to remember the experience of disasters and to educate people on disaster risk reduction.

There was a project financed by the Japanese Ministry of Foreign Affairs' grant aid for disaster prevention and reconstruction to conduct experiments of demolishing buildings while I was working for IRP. The project was targeted at five countries in South Asia, and the experiment conducted in Nepal was a large-scale one, costing 100 million yen.

We also conducted another project using the experience and lessons gained through the earthquake in Kobe, and knowledge accumulated at ADRC and IRP. Under the project, Nepal was zoned into five blocks to conduct a variety of programs, including human resource development of aseismic design experts and architectural specialists; education for municipal/regional disaster risk reduction leaders and building owners; and the publishing of guide books, posters and leaflets for raising public awareness. I heard that when the 2015 earthquake occurred, 1,000 copies of this leaflet were printed and sent to the affected area, which I heard was extremely useful. It was an occasion for us to see the product of a project that began a few years ago from Kobe serving a useful result in the aftermath of the earthquake in Nepal.

The United Nations Centre for Regional Development (UNCRD), which used to be a member of DRA, also offered "School Earthquake Safety Initiatives (SESI)" programs, gender-sensitive disaster risk reduction programs for communities and the creation of a hazard map for local communities. At the end of this month, we are planning to conduct a study on how the outcomes of these programs were used in post-disaster Nepal, with the help of Citizens towards Overseas Disaster Emergency (CODE).

Our assistance for the post-disaster period includes sending DRI's senior researcher in charge of emergency nursing to the Japan Disaster Relief (JDR) Medical Team. Aside from that, a team of six medical doctors and other healthcare professionals of the Hyogo Emergency Medical Center has been sent to Nepal along with a large-scale medical facility that allows surgeries with general anesthesia, the first such facility to be sent abroad, and began its local operation. With this facility in place, we are now discussing how medical teams arriving from different countries could be coordinated.

According to the findings made by Team HYOGO, most of the buildings constructed after the 1934 earthquake in downtown Kathmandu were three-storied and all buildings taller than three floors have the new floors added later illegally. These illegally "elevated buildings" account for about 70-80% of the buildings in Kathmandu. In fact, they are getting taller without any consideration for seismic resiliency and becoming extremely vulnerable. There are districts with narrow streets with shops on both sides and some are crowded with tourists. In some areas, when you look up, you can see illegally-added floors protruding from their base buildings. On the other hand, districts like Naya Bazar, which underwent land readjustment project, now have a well organized street layout. We believe that the knowledge Japan has gained through its disaster- recovery experience can help Nepal become more resilient against disasters.

To fulfill our mission, which is to pass on the stories of disasters, we are supporting the operations of disaster training centers in Turkey and other countries that had experienced major natural disasters, in cooperation with JICA. We hope to continue supporting the reconstruction efforts of Nepal using our strengths.

Panel Discussion

Yoshiteru Murosaki: Let's begin the panel discussion. To start off, we'd like to hear from Dr. Ryoma Kayano, who is a Technical Officer for Health Risk Management at the WHO Centre for Health Development. He is here today as a commentator. Please give us your general comments and opinions on the support for Nepal.

Ryoma Kayano (Technical Officer, MD [Health Risk Management], WHO Centre for Health Development): The Executive Director of ADRC, Ms. Kondo mentioned the fact that we, WHO, and other international organizations having their offices in HAT Kobe itself is a significant example of creative reconstruction and the Build Back Better concept in action. Attending the Forum made me realize that this was an important outcome of the contribution made by the stakeholders in Kobe. As Governor Ido stated, the process must have been "challenging to the unknown." I would like to give my heartfelt praise to them for taking on the challenge and for the achievement they made, and thank them for their dedication.

We are 15 years into the 21st century, and all countries across the world are facing challenges to the unknown today. These would include climate change, globalization or interconnectedness of people and things constantly moving on a global scale, and the growing of the global population that has already reached the stage where we have more people aged 65 than children up to 5.

We heard a number of presentations discussing urbanization in a state of disarray today, and the urban population is exceeding the population living in rural areas. It is predicted that, by 2050, 70% of people will be living in cities, of which, in the case of Japan, senior citizens will account for at least 30%. There are many challenges humankind is facing for the first time in its history. In such times where unprecedented global-scale problems are emerging, the United Nations and all kinds of stakeholders should work together to tackle these issues.

Against such backdrop, a set of 17 Sustainable Development Goals (SDGs) to be achieved by the international community in the period 2015-2030 was adopted. Achieving these goals would require cooperation and collaboration and, to that end, WHO conducted a major reform in its approach to disaster risk reduction, and has integrated its division in charge of communicable diseases and that for disaster medicine. This represents WHO's decision to meet the challenges of the world through the concept of "emergency and disaster risk management for health."

The WHO Kobe Centre I work for is the only public health research institute reporting directly to WHO's headquarters and was established 20 years ago as a "symbol of reconstruction" after the Great Hanshin-Awaji Earthquake. We are currently holding discussions with experts around the world, with a mission to formulate evidence-based policy recommendations by actively promoting collaborative research on challenges without an answer or without scientific evidence through collaborations with academia and scientific research institutes across the world. For this undertaking to tackle the public health challenges of the international community, we solicited funds from the Japanese government, Kobe City, and Hyogo Prefecture via their established funding schemes.

For disaster reduction and risk management, in particular, our main focus is on promotion and implementation of the Sendai Framework. As a health organization, WHO is also discussing with the Other UN organizations and academic institutions the establishment of a database for useful disaster data related to health. The medium- and long-term psychological and social effects that disasters have are also on our agenda for discussion with Japanese and international academic institutions.

The report by the Joint Secretary of Ministry of Urban Development, Nepal, Mr. Mainalee on the Nepal earthquake and the video footage of the tragic damage that I saw today made me simply want to do everything within my capacity, as a physician and a WHO staff member, to help the people suffering as a result of an unexpected disaster. The Sendai Framework underscored the importance of a people-centered approach in disaster risk reduction, which is significant progress. I would like to acknowledge this again and carry on with my research operations to contribute to helping as much as possible the people affected.

Yoshiteru Murosaki: Now, I'd like to hear your opinions on the themes of "the past" and "the future." Japan and Hyogo have been sustainably supporting various DRR efforts in Nepal. We'd like to look back and verify the effectiveness of the support provided in the past. Also, we'd like to discuss what shape our future support should take in order to implement BBB in Nepal, which is the first case the Sendai Framework will be applied to.

Padma Mainalee: Yeah, Murata-san already mentioned that BBB was started in Nepal 80 years ago, that's a great of him but let me focus on my remarks on two-three things. The first one is what we really damage reduction vis-à-vis prevention and mitigation activities of each institution that we involved or not. The earthquake this time really its characteristic is so innovative, I mean, it's so positive to Nepalese people that it did not really went devastating one, but it is still a devastating. But let me start with some kind of preparedness with it. First of all, it's not in Japan and I am taking a lead role giving JICA's role on that, but it was in 2002 in which we started our risk assessment project for the Kathmandu Valley which is now being revisited in 2016 with some kind of some scope revisions and like that.

But within this all of our work from Hyogo to Sendai and the present day but we lacked three areas for the preparation.

One is we really lacked on what to do with the buildings that is not really devastated or dismantled but tilted or has to be dismantled so one is that. The second one is really the debris management and reuse of it and the locations to identify where to really manage these debris and third one is, you see, after 7 months we are going to the people's house again saying that we will record your data. If we have recorded that data digitally at the first that will have save our around 3 months and 3 months after disaster is a lot.

We had to be really prepared on digital recording of damage and preparedness and that will be used practically for the PDNA and really practically for the recovery work and the plus thing is the PDNA, we really discussed a lot with the agencies but we really did not empower the government agencies in PDNA to carry out. That was our lack of real preparedness and second one is you can see from my video that there are many agencies who really takeover within 24 hours, there are lot of agencies really coming on that and we really prepare for how to coordinate that one. So the government was really prepared for that and the French group really came within some hours, Indian groups, and EU and other groups, USAID, UNDP and including Japan. Japanese was one of the first to saying that BBB is going to be like that. So that was in a JICA held BBB conference in just 30 days of that disaster. You are really prepared how to go forward and the same thing for Nepal it took 60 days for that. So we have to really learn a lot from the Japanese people.

Now, I would really like to ask – I mean, let's say if we really use this gathered experience, there are two-three methods. One method is actually to go for the integrated approach. Integrated approach, if you have many agencies within your territory, you can really develop integrated approach or integrated agencies and come to the government agencies because government already has launched two-three things. One is HRR platform that is Housing Recovery and Restoration Platform, HRRP platform and the second one is this is coordinated by Nepal National Reconstruction Authority. So everything goes on that one.

There can be two-three things. Technical hardware and software things for the community mobilizations and using the local agencies, local NGOs, and like that. There are two, and in reality we have really approached, approach should be coordinated with the government agencies and that's practically very effective and very useful with the National Reconstruction Authority which is already on board. Partnership framework can really go with other one. There are two-three examples which really have shown positive results. One is examples on Bungamati settlement, I mean, 2 days – 4 days ago, the Prime Minister inaugurated that settlement's reconstruction work and that we work together with University in Belgium and University in Nepal and UN Habitat. People say that academy exercise did not work but in Nepalese case there are academic exercises really worked well. We can go on that way. For that government launched Center for Urban Planning Studies in Tribhuvan University which is again doing some work with CEPT India and there are some other works going on with Sydney University and University of Colorado Boulder.

So through this, we really want to ask people or agencies or academic institutions to come together with all the institution. There are many doors opened in Nepal that depends on what kind of framework that you want to develop. If it is academic, that's open to the academics. If it is very practical, that's also go to practical ones and coordinated by NRA. If you really want to go to the community, that's also be coordinated by HRRP or Housing Reconstruction Platforms and that kind of platform is available in all kind of sectors. If resiliency is our departure point, then we have to think what is this resiliency and how we really develop community for this resiliency.

If this team Hyogo is really interested, then I feel that team Hyogo should take a kind of pilot examples. Two examples are already on board; one in urban settlements and one in rural settlements. If you really want to go for education sector, requirement of vocational school is one of the primary one in Nepal because we need lot of masons, lot of really workers who really want to contribute in recovery. So that could be a starting point and then I really want to thank all of the presenter who really made a real focus in Nepalese cases and I really want to focus on one point that's leaflet by ERRP that was really useful and we really used a lot. The 25th was the real earthquake and 27th we really started with ERRP booklet to go for the initial damage assessment so that making people aware of what their structure is whether they could live in or not. So this kind of exercise is really useful and I really thank a lot. Thank you very much.

Yoshiteru Murosaki: Support provided in the past to Nepal had been considered effective, but it did not help DRR orientedness to take root in Nepal countrywide, as the knowledge and technology transfer remained isolated from each other. This inadequacy was responsible for the damage being so severe this time. To improve this situation, establishing a solid mechanism of platform and network is vital to bring the efforts together. I believe today's discussion was about the need for Japan and Nepal to work together to create and improve such mechanism.

Masahiko Murata: DRI has been leading the initiatives I just presented, but the Forum reminded me that they do not yield results in a short term. After the earthquake I visited Nepal for the first time in seven years, and found that the seismic retrofitting technology we provided was taking root slowly at the community level in some of the areas where we launched our programs in the past, although not all areas were seeing



favorable results.

Susumu Yuzurio: I agree with Mr. Mainalee that past support was a combination of useful and not-so-useful measures. In 2002, we proposed an earthquake risk reduction project in which we conducted a risk assessment based on scientific analyses. The result of the assessment was used in rezoning of lands by development partners and in creating escape routes and open spaces in the city by the Nepal government, so, apparently, there were useful parts. On the other hand, I feel that enhancement of resilience of lifelines and infrastructure, improvement of seismic-resilient structure of buildings, and other concrete measures still have a long way to go. Japan's grant aid is often rated as costly but, in fact, the roads built with the aid experienced less damage than other roads in the Nepal earthquake. We can say that in terms of earthquake resistance, we are building high-quality facilities.

JICA trainees are also an "intangible asset." In Nepal, you see many signs saying "Study Japan." Many people go to Japan to study and many of them speak the language. Some of them work for the government, the private sector, and academic institutions. These people are building a multi-sectoral and multi-layered relationship among them. Such network was very instrumental in the reconstruction efforts.

Yoshiteru Murosaki: Many people who came to Japan as trainees through human resource development programs and exchange programs are now serving as instrumental DRR administrative officials in Nepal. HR development and exchange programs yield favorable results relatively quickly.

Kyoko Kondo: To be able to communicate well in an emergency, we need to develop close and friendly networks of counterparts in our everyday life, before a disaster hits. I think the only way to prepare for it is to continue good relationships by institutionally studying and understanding the policies, systems and society in Nepal, for example, which are rapidly developing.

Yoshiteru Murosaki: It has been 21 years since the earthquake hit Kobe and, today, we can see young people taking an active part in DRR. We have been earnestly conducting disaster education at primary schools for the last 20 years and, after 20 long years, we are finally starting to see the results. Immediate results cannot be expected in reconstruction works, and we always have to see things on a long-term basis. As for future support work, we do need a long-term perspective but I'd like to ask your thoughts on the shape the future support should take, and on BBB.

Yuki Matsuoka: From long-term perspective, it is crucial to ensure a proper mechanism, while it remains a challenge. Designing a good system is one of the most effective means to connect isolated dots (ad hoc supports) and form a line of support (aligned support). For instance, it is important to work with policymakers. In order to do so, UNISDR has been discussing with the Nepalese government to organize workshops and conferences to provide opportunities for Nepalese parliamentarians to understand DRR better and learn from other countries. I believe that this is one of the possible ways of support to tackle the challenge we face today.

Ryosuke Aota: We should take Nepali history, culture, thinking, and social structure fully into account when providing support. Education in particular takes tenacity and long-term commitment. One lesson learned from the Kobe earthquake was "never leave behind anyone, not even one." We should be aware of the importance of the "soft measure" and carry on providing support on a long-term basis.

Yoshiteru Murosaki: We also have the issue of how we could support architectural standards and disseminate them countrywide at the same time. It is also important to consider how we could strengthen the vulnerable wooden, traditional structures of Nepal, as well as how to elicit the strengths of the community people. Please comment on the future of reconstruction, including the interconnectedness of the people.

Shingo Kochi: Nepal is a mountainous country with many farmers but tourism is also the country's major industry. That's why improvement of infrastructure with a good balance of enhancement in the hardware and software dimensions is important. For instance, as preventive measures for sediment disasters, check dams of stacked stones that were used in Japan before as well as other low-cost resident-level and community-level DRR means should be implemented steadily. One way is to work on human capacity building consistently, disseminate the concept, and increase awareness.

Yoshiteru Murosaki: Let's hear comments from Dr. Lohani of Kobe University.

Dr. Tara Nidhi Lohani: There is a difference in approaches between Japan and Nepal. Resilient buildings and disaster education are necessary but, before that, we need to think about the people who don't have enough to eat every day, for example. That's why, on a longer term, support providers should let local people take care of what they can handle and, for those areas that we need to support, provide longer-term support that is useful for our daily lives.

Yoshiteru Murosaki: That is a very important point. Support is not mere giving but to bring out the strengths of the country fully, too. Not only the members of various organizations on this stage, but also each one of the visitors to this Forum, citizens, and volunteers should work together to support not only Nepal but also other areas of the world. The term "Team Hyogo," mentioned earlier, is in a broader sense an initiative to return the support Hyogo received when it experienced the Great Hanshin-Awaji Earthquake, as well as to appropriately support disaster-stricken areas across the globe. We'd like to acknowledge that, in the closing of the panel discussion.

Summary / Closing

Executive Director, Disaster Reduction and Human Renovation Institution [DRI]
Yoshiaki Kawata

Last year's DRA Forum had great programs centered on the 20th anniversary of the Great Hanshin-Awaji Earthquake, and this year the quality is even higher. We think organizations involved in the reconstruction efforts are now able to work more cooperatively, and a mechanism for them to collaborate for a single purpose has been established. Thanks to such improvements, today' s presentation on the Third WCDRR held in March 2015 was organized with a practical perspective, and we were able to discuss various issues, particularly how we could support the reconstruction efforts of Nepal after the earthquake.

A special report by Ms. Yuki Matsuoka was an extremely valuable presentation to understand what kind of disaster environment our society will be stepping into in the future. Natural disasters have claimed the lives of 2.6 million people in the last 40 years, three-quarters of which were those living in Asia. Within Asia, in particular, South Asia or Southwest Asia, including Nepal, a high percentage of casualties is presented. We must expect this trend to continue, and during the Forum, we were able to gain much knowledge about which part of the world should be the focus of disaster risk reduction.

In March 2015, the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the UN World Conference on Disaster Risk Reduction, but how is it different from the 2005 Hyogo Framework for Action? Why were the changes necessary? We must understand the background behind the modification correctly and constantly make efforts in the long 15-year period to achieve the Sendai Framework objectives. Thanks to this presentation, we were able to get the implications of such efforts correctly.

In the special lecture, Mr. Padma Mainalee made a detailed report on the damage incurred by the April 25 Nepal Earthquake. The report provided characteristics of the damage, readiness of the reconstruction efforts, and the guidelines through which the Nepali Government is designing the country's system for disaster risk reduction. He presented the quantitative evaluation of housing reconstruction, technical support and financial challenges. This type of basic information is very important to have, in establishing frameworks for self-help, mutual support, public support and external support or support from other countries.

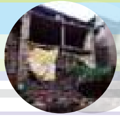
During the panel discussion, we discussed how reconstruction experiences and lessons Japan has gained could be communicated to Nepal. The panelists also explained how we could redefine our efforts in terms of the Build-Back-Better concept.

The audience must understand that disaster risk reduction in Nepal is a very difficult undertaking. As you know, the population of Nepal has rapidly increased, from 20 million in 1995 to 28 million today. Farmers accounted for 70% of the population in the 1990s, and it is still 60% today, which means most of the Nepali population is in farming.

We have been visiting Nepal since the 1990s for research on disasters, and we learned that the most popular natural disaster in the country is sediment disaster, followed by floods. They are popular not because the country is mountainous, but because an increase in population has raised the number of farmers and they cultivated valleys to make terraced rice fields and cut down forest trees to grow farm products, in order to expand their farm land. These areas are disaster-prone to start with, and heavy rains could easily trigger mudslides and floods.

Farmers who lost their lands go to Kathmandu to look for jobs and the influx naturally pushes up the population of the capital. These newcomers, however, would not find homes in the safe areas of the city and are compelled to live in poorly-built houses in an area vulnerable to disasters. This suggests that poverty is increasing the chances of encountering disasters even in the urban areas, and indeed the low-income population was the group most severely hit by the earthquake in Kathmandu. Without question, disparities are further aggravating the damage. It will be hard to resolve issues arising from disasters unless this poverty-induced vicious cycle is stopped.

In tackling these enormous challenges, it is important to stick to our basic approach of "carry on supporting, on a long-term basis, utilizing individual strengths." The prerequisite to launch these projects is to establish a mechanism to ensure related parties share the same view and understanding of the challenge. I think you were able to understand the importance of the continuation of our activities we presented today. DRA is committed to sharing the information and initiatives from Kobe, which has experienced a major disaster, not only with the government, but also with local governments, local communities and other stakeholders and improving them.


阪神大震災21年　国際防災・人道支援フォーラム2016

よりよい復興 ネパールと

兵庫からの発信 続けて

「国際防災・人道支援フォーラム2016」（兵庫県などでつくる実行委員会主催、朝日新聞社など後援）が20日、神戸市中央区で開かれた。昨年採択された国連の防災指針「仙台防災枠組」が掲げる「ビルド・バック・ベター（BBB、よりよい復興）」の考え方を、昨春のネパール大地震の復興で実践するために、阪神・淡路大震災の被災地の兵庫と、日本、国際社会がどう取り組んでいくか。行政や国際機関の専門家らが語り合った。

特別報告

国連国際防災戦略事務局 駐日事務所代表

松岡 由季さん

アジアは災害に対して最も脆弱な地域といえる。70年からの40年間だけで災害による死者の75%がアジアで発生した。持続可能な開発や社会構築には防災や減災の視点が不可欠で、災害に対する強靱性を高める必要がある。

15年3月に仙台市で第3回国連防災世界会議が開かれ、185カ国の政府のほか、地方自治体やNGOなど、多くのステークホルダー（利害関係者）が参加。会議で採択された「仙台防災枠組」には、四つの「優先行動」が記された。

第1は「災害リスクの理解」でリスク評価などを提言。第2は「災害リスク管理のための災害リスク・ガバナンスの強化」、第3は「強靱性のための災害リスク削減のための投資」だ。

そして第4に「効果的な応急対応に向けた備えの強化と、より良い復興（BBB）の実施」と書かれた。BBBは被災前より強靱で良い社会を目指す復興だ。

また、同枠組では防災や減災に対する責任は政府が一義的に持つとした上で、多様な利害関係者も責任を共有する「社会全体の関与と連携」が強調された。兵庫県からも継続して知見や教訓を国際的に発信していくことが期待される。

在ジュネーブ国連日本政府代表部などを経て04年から国連国際防災戦略事務局本部で勤務。事務局長特別補佐官などを務め、09年より現職。地球環境学博士。

地域特性にも配慮したい

特別講演

ネパール都市開発省局長

パドマ・マイナリさん

昨年4月にネパールをマグニチュード7・8の大地震が襲った。死者は8960人、負傷者は約2万2300人に及んだ（15年5月政府公表データ）。全壊した建物は60万棟以上、一部損壊は約29万棟。被害のあった民間の建物の約6割は強度の低い構造だった。

人口の多い農村部の中にはかなりの被害を受けた地域もあった。このため、都市部へ移住する人たちが増えた。震災後は都市の再開発を考慮して復興にあたる必要があった。

政府は問題の洗い出しをした。農業やインフラなど23分野の再建項目を整理。私の専門の建築分野では、建築基準法が守られていない、技術はあっても耐震化技術を導入していないなどの問題点が浮かび上がった。復興にあたり、復興庁を設立し、様々な計画の調整をすることにし、BBBを、取り組むべきテーマに据えた。さらに、復興活動を通じて貧困層などの助けとなるように地域経済を強化し、生活向上の機会につなげる必要性がある。

復興段階では、良質な建築資材や熟練工が不足する。また、復興事業には70億ドルが必要だが、政府の20億ドルのほかに、世界銀行の2億ドル、日本政府の1億ドルが住宅用の復興資金として確約されているだけだ。

BBBの実践は義務であるが、高度なものでなく、実践可能な、できるだけ単純な仕様にしたBBBでなければならない。地域特有の建築様式や地域のアイデンティティーまで配慮したものを目指していきたい。

ベルギーの大学で建築研究科修士課程（人間居住学）を修了。英国ニューカッスル大の研究プログラムなどを活用し、都市開発や住宅、建築を学んだ。

パネルディスカッション

開発 強靱化進めながら

アジア防災センター

近藤 共子さん

日本では戦後の人口急増の時代に急いで開発された傾斜地で、土砂崩れなどで多数の死者を出した。ネパールでは地形が複雑な山間部にも人が住んでおり、急速な人口増と都市化が進んでいる。開発の進む時代にどのように国土の強靱化も同時に進めていくか。ピンチをチャンスにと日本でも言われてきているように、災害をBBB、さらに、よりよい開発の契機にしてゆく知恵が求められる。

アジア防災センター所長。国土庁、国土交通省、国連国際防災の十年事務局、経済協力開発機構公共ガバナンス・地域開発政策局などを経て現職。

道のり 現場で共に創造

国際協力機構

譲尾 進さん

JICAはネパールで道路や学校の緊急復旧や災害に強い住宅再建などを支援している。日本の復興経験の共有や開発を支援するパートナーとの連携はもとより、大事なのはネパールの制度やコミュニティーとの協調。ネパールの人々はこれまで日本と違う文化や環境で生活してきたので、復興の道のりも日本とは違う。両者で現場で一緒に考えながら復興の形を創造していくのが非常に重要だ。

国際協力機構（JICA）社会基盤・平和構築部都市・地域開発グループ第一チーム課長。ヨルダンなどで都市インフラ事業や復興支援などに従事。

正しい防災知識伝える

兵庫県立大

青田 良介さん

兵庫県の学校や研究所、NPOなどで支援のために「チーム兵庫」の結成を準備中だ。ネパールの行政や支援団体、学校などから幅広く事前調査した。地震発生時に校庭にいた生徒が、校舎に戻り机の下に入って建物の下敷きになった「誤解による犠牲者」もいたと聞く。正しい防災知識を伝えるために、ネパールの関係者と一緒にアクションプランを作り、教材にまとめて全土に広めたい。

兵庫県立大防災教育研究センター准教授。元兵庫県職員で、在職中に外務省出向し、在パース日本総領事館で勤務。アジア防災センターでも勤務。

支援 国民の意識啓発も

国際復興支援プラットフォーム

河内 紳吾さん

ネパールは人口の25%が貧困層と言われている。ただでさえ国造りの課題に立ち向かっているところに自然災害が覆いかぶさった。復興も中長期にならざるを得ない。日本の経験を伝えるだけでなく、法令の順守など復興に向けた国民の意識啓発に向けた支援となる。防災やインフラ整備についても、低廉な価格で実施できるものを活用しながら、着実に支援していく必要がある。

国際復興支援プラットフォーム上席復興専門官。兵庫県庁から派遣され、南スーダンなどで復興行政担当官の育成に従事。13年から現職。

被災「語り継ぐ」施設を

人と防災未来センター

村田 昌彦さん

ネパールには1934年に起きた大地震を伝える碑がある。生活必需品の課税緩和など、いまでも通用するような被災者支援策が書かれている。だが、その地震を学校で教えていない。ひとごとのように考える人が多く、昨年の地震で当分地震が来ないと考える人もいる。80年たつと教訓が風化するのかと感じた。「語り継ぐ」施設の開設支援の機会などがあれば、得意分野を生かし、協力したい。

人と防災未来センター研究部長。兵庫県に土木職として入庁。アジア防災センター、人と防災未来センターなどの立ち上げに参画。

保健意識高めたい

世界保健機関

茅野 龍馬さん

WHOでは保健領域の災害関連データベース化などに、関係者が相互連携して取り組んでいる。ネパールでも健康・保健関連の意識が高まっていくような政策提言に取り組みたい。

世界保健機関（WHO）健康開発総合研究センター健康危機管理官。精神科医。東日本大震災では医療チームに携わる。

ファシリテーター

ひょうご震災記念21世紀研究機構

室崎 益輝さん

ひょうご震災記念21世紀研究機構副理事長。神戸大都市安全研究センター教授、消防庁消防研究センター所長などを経て、13年から現職。

この特集は金井和之、佐藤卓史、瀬戸口和秀、山西厚、滝沢美穂子（写真）が担当しました。

総括

人と防災未来センター長

河田 恵昭さん

関西大理事・社会安全学部教授（防災・減災）、関西大社会安全研究センター長。京大防災研究所長などを務めた。京大名誉教授。工学博士。

格差 被害を大きくする

ネパールの防災問題は非常に難しい。国民の多くは農民で人口が増えている。渓谷や密林を開墾して農地を増やすが、そこは災害に弱い土地で、土砂災害などが起こりやすい。災害で土地を失った農民が首都カトマンズにくるが、ここでも災害に脆弱な土地や住宅に住まざるを得ない。昨年の地震では貧しい人たちが被害を受けた。

格差が被害を大きくしている。貧困と災害の悪循環をなくさない限り、問題を解決するのは難しい。共通の認識を持ち、それぞれの得意分野で長期に援助することが大事だ。

The Asahi Shimbun, 30 January, 2016 (morning edition)

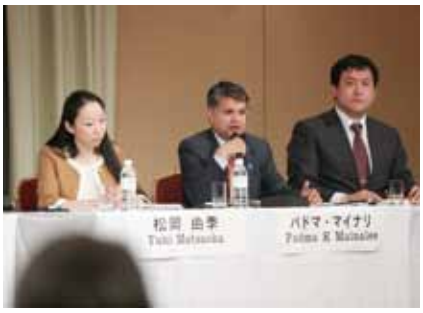
「被災国の文化理解を」

ネパール復興支援テーマ

神戸でフォーラム

The Sankei Shimbun, 21 January, 2016 (morning edition)

Photographs



Disaster Reduction Alliance Member Organizations

☐ Asian Disaster Reduction Center
☐ The Asia-Pacific Network for Global Change Research
☐ Disaster Reduction and Human Renovation Institution
☐ Education and Research Center for Disaster Reduction (ERCDR), University of Hyogo
☐ Hyogo Earthquake Engineering Research Center
☐ Hyogo Earthquake Memorial 21th Century Research Institute
☐ Hyogo Emergency Medical Center
☐ Hyogo Institute for Traumatic Stress
☐ International EMECS Center
☐ Institute for Global Environmental Strategies
☐ International Recovery Platform (IRP)
☐ Japan International Cooperation Agency
☐ Japanese Red Cross Hyogo Chapter
☐ Japanese Red Cross Kobe Chapter
☐ Kobe Local Meteorological Office
☐ United Nations International Strategy for Disaster Reduction (UNISDR) Office in Japan
☐ United Nations Office for the Coordination of Humanitarian Affairs Kobe Office
☐ World Health Organization Centre for Health Development (WHO Kobe Centre)

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