IRP activities and knowledge products.

* IRP members: Asian Development Bank (ADB), Asian Disaster Reduction Center (ADRC), Cabinet Office of Japan, Centro de Coordinación para la Prevención de los Desastres Naturales en América Central (CEPREDENAC), Hyogo Prefectural Government, International Labour Organization (ILO), Ministry of Foreign Affairs of Italy, Swiss Agency for Development and Coordination (SDC), the World Bank, United Nations Centre for Regional Development (UNCRD), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Educational, Scientific and Cultural Organization (UNESCO) ,United Nations Human Settlements Programme (UN-HABITAT), United Nations International Strategy for Disaster Reduction (UNISDR), United Nations Office for Project Services (UNOPS), World Health Organization (WHO).

6-3. IRP Activities in FY 2017

6-3-1. International Recovery Forum 2018

Introduction

The discussions at the Forum revolved around "Build Back Better for Urban Resilience", wherein experts, scientists, practitioners, and public and private officials served as resource persons. The outcomes highlighted a forward-looking perspective of "Build Back Better in Recovery" that encourages cities to directly address the challenges they are facing today, as these greatly contribute to vulnerability that will make future recovery efforts difficult. It also pointed that the "people's process" approach in disaster recovery (which has been tested in many communities worldwide) may take time during the planning phase, but it can offer speedy implementation of activities when properly applied. However, it should not end there. Resilience implies consistent action – always looking forward and not back – to prepare towards the future: to build forward better.

The Forum was opened by **Mr. Stefan Kohler**, UNOPS Country Manager for Bangladesh and Chair of IRP Steering Committee, and followed respectively by the welcome remarks from **Mr. Mamoru Maekawa**, Vice-Minister for Policy Coordination of Cabinet Office Government

of Japan, and Mr. Kazuo Kanazawa, Vice Governor of Hyogo Prefecture, on behalf of Governor Toshizo Ido. All the remarks highlighted the important role of IRP in coordinating and sharing knowledge on *build back better*, including the lessons from the Great East Japan Earthquake of 2011 and the Great Hanshin-Awaji Earthquake of 1995.



Fig.6-3-1. International Recovery Forum 2018

Themes and Format of the Forum

The format of the Forum was designed to address the following themes:

- 1. How does "Build Back Better" contribute to urban resilience?
- 2. What does it mean by "Build Back Better" for urban resilience?
- 3. Innovative approaches by learning from past experience and initiatives, and how to measure success of "Build Back Better" in cities?

The first theme was addressed through a **keynote speech** delivered by **Professor Takashi Onishi**, President of Toyohashi University of Technology (TUT) and Emeritus Professor of University of Tokyo. Based on detailed investigation of the recovery efforts from the Great East Japan Earthquake, Prof. Onishi emphasized that *build back better contributes to urban resilience* through context-specific measures that ensure greater safety of communities than before the disaster. His speech emphasized five messages on how to *build back better for resilience*: (i) restore damaged communities so as not to be affected by similar disasters, (ii) restore the lives of disaster victims to realize their hopes as much as possible, (iii) restore industries and social activities in the affected communities so as to avoid the influence of the disaster to the rest of the world, (iv) restore in sustainable way and avoid haste, and (v) restore responsibly through a well-considered implementation strategy.

The second theme was addressed through a **panel discussion** moderated by **Mr. Stefan Kohler**. The panelists, comprising **Ms. Setsuko Saya** of the Cabinet Office, Government of Japan and Co-chair of the IRP Steering Committee; **Mr. Raj Kumar Srivastava**, Deputy Chief of Mission Embassy of India in Japan, on behalf of National Disaster Management Authority; **Mr. Hans Guttman**, Executive Director of Asia Disaster Preparedness Center; **Mr. Josef Leitmann**, Lead DRM Specialist at GFDRR/World Bank; and **Mr. Atsushi Koresawa**, Director of UN-Habitat Regional Office for Asia and the Pacific, shared their views concerning the following:

- How build back better for urban resilience is understood in their respective institutions
- How build back better is integrated in their respective programs, initiatives, or activities
- How build back better activities are being implemented

The discussions were anchored on the consultative version of the Sendai Framework's implementation guide by UNISDR: "Words into Action: Build Back Better in Recovery, Rehabilitation and Reconstruction." The key messages from the discussions were integrated into the twelve key issues listed in this report.

Finally, the third theme was again addressed through a **panel discussion** moderated by **Mr. Nigel Fisher**, former United Nations Assistant Secretary-General. The panelists, including **Mr. Chiri Babu Maharjan**, Mayor of Lalitpur City, Nepal; **Mr. Huang Sanping**, Vice Mayor of Tangshan Municipality, China; **Mr. Noboru Shimizu**, Manager Planning Crisis Management Office of Kobe City, Japan; and **Mr. Shahbaz Khan**, Director of Jakarta Office and Country Representative of UNESCO in Indonesia, shared their views regarding the following topics:

• What innovative approaches on *build back better* are being introduced based on the lessons from past experiences

- How do these innovative approaches contribute to achieving long-term urban resilience
- How is success of build back better measured in cities

The sharing of experiences offered clear examples of what specific recovery approaches can help cities develop their resilience, including the strengthening of capacity to absorb the impact of hazards, protect and preserve human life, and mitigate future damage of public and private assets all while continuing to provide the essential infrastructure and services in the aftermath of a disaster. The specific lessons from these experiences were integrated in the twelve key issues listed below.

12 Key Issues

Issue 1: "Build Back Better" Implementation Framework

The basis of the discussions was the consultative version of the Sendai Framework implementation guide: "Words into Action on Build Back Better in Rehabilitation, and Reconstruction" that outlined four major tasks, namely: <u>Task 1</u> Develop a National Recovery Framework; <u>Task 2</u> Enable Pre-Disaster Recovery Planning; <u>Task 3</u> Formalize Systems for Assessment; and <u>Task 4</u> Strengthen Policies on Build Back Better. One of the issues about the guide is how to define and measure "better".

Issue 2: Execution of "Build Back Better" Tasks

It is one thing to define the four tasks, and it is another thing to determine how these are executed. The latter is a crucial factor in assessing how *Build Back Better* for urban resilience actually performs in reality. Good governance is essential for resilience, as it facilitates good planning, transparency, and clarity of responsibility and accountability.

Issue 3: Context-Specificity

While it was acknowledged that National Recovery Frameworks and Recovery Plans are essential, to be effective, these must be broken down into local context and location-specific development approaches – recognizing the unique features and characteristics of different locations, their specific vulnerabilities, and risk factors. It was an affirmation that one size does not fit all.

Issue 4: Speed of Recovery

Speed of recovery was constantly mentioned in the discussions, and that to ensure speed, the following were deemed as absolutely necessary:

- establishing good coordination (e.g. setting up a command center or disaster management headquarters within hours)
- starting recovery planning immediately, while still in the emergency response/rescue phase
- starting to implement the recovery plan as quickly as possible following the disaster
- building temporary housing quickly, and restoring lifeline infrastructures
- mobilizing the citizens and uniformed services to protect heritage sites and prevent thefts

Issue 5: Comprehensiveness

Build Back Better must be comprehensive, ensuring unified planning and response. It was pointed in the discussions that Build Back Better ensures integration of 'disaster risk reduction measures into the restoration of physical infrastructure and societal systems and into the revitalization of livelihoods, economies and the environment'. Additionally, it was emphasized that building resilience demands consideration of 'the urban system as a whole'. Hence, Build Back Better is anticipatory of future risks, and accordingly, adopts mitigation measures in systems, policies, and investment as shown in the case of Kobe City and Tangshan City.

Issue 6: Consultation and Inclusion

Consultative planning, as pointed out in the discussions, is often overlooked in many recovery processes. The speakers at the Forum affirmed that it is essential to put affected people at the center of recovery efforts. Many options were presented, including: (i) the "People's Process" approach to recovery as presented by UN-Habitat, emphasized the importance of community mobilization, planning, contracting, implementation and monitoring, which has been proven to be fast, cost-effective, transparent, empowering, and unifying; (ii) the BOKOMI Volunteer Disaster Response Groups of Kobe City engages citizens in restoration plans and projects as well as promoting mutual assistance and disaster drills; and (iii) pre-disaster preparedness planning, in response and recovery, as referenced in Lalitpur, strived for the inclusion of women, people with disabilities, and the elderly population.

Issue 7: Recovery as Healing

Recognizing that there are some long-term traumatic effects of a major disaster, it was pointed that recovery provides the opportunity for healing through psychosocial support. Restoring religious, cultural, and social life as well as economic life can help heal the urban fabric impacted by disaster. When *Build Back Better* focuses on living heritage, community, and social protection, it enables people to put their mental and physical lives back together, which is an important part of trauma recovery. Trauma may not be visible, but that does not mean that it does not exist.

Issue 8: Assessment

These questions prevailed: How to measure *Build Back Better*? How to measure success of *Build Back Better*? What is 'better'? While many examples of measurement, assessment, evaluation were shared, what was really emphasized is to give special attention to reducing vulnerability in risk-prone areas of formal and informal settlements including slums, and to reduce the vulnerability of the poorest and most vulnerable citizens. One of the suggested indicators of the success of *Build Back Better*: real improvements in the situation of the bottom 10% of the urban population in terms of their housing and access to social services, social protection, and employment. If the situation of the people at the bottom of the ladder is improving, it indicates that the situation of others who are better off in urban communities is improving too.

Issue 9: Financing

How to pay for it all - the preparedness planning, the mitigation efforts, the recovery and

reconstruction efforts? Can poor populations afford to build back better, not worse? The costs of recovery are increasing, and it was pointed that community engagement in recovery process is cost-effective. Recovery financing remains a key issue for local governments, especially in terms of disaster risk financing, insurance, and reinsurance. Moreover, there is a question regarding how cities and municipalities can improve their financial performance and credit worthiness to fund climate-smart infrastructure.

Issue 10: Networking and Learning

The presentations at the Forum reinforced the importance of knowledge exchange. Several examples of international knowledge networking, of online platforms of professionals, and of networks of affected people were reported. Many participants at the Forum called for more networking and knowledge exchange in area of disaster recovery – a manifestation that an event like the International Recovery Forum is a necessity for networking and mutual learning: global knowledge for local action. The Forum stressed the importance of documentation, of recording and making available for posterity what was done to prepare for and recover from disasters.

Issue 11: Science and Technology

Recovery strategies should also be based on scientific analysis. As part of Build Back Better efforts, a number of examples of the application of new technologies were presented:

- using new information technology to reach schools and young people, such as creating mobile applications for data collection (Tohoku Region, Japan)
- deploying vibration isolation technology in schools, hospitals, and kindergartens (Tangshan City, China)
- combining respect for the integrity of traditional heritage construction and new seismic strengthening technologies (Lalitpur, Nepal)
- fostering innovative industries in post-disaster recovery, such as the Kobe Biomedical Innovation Cluster (Kobe, Japan)

These examples show that technological evolution is accelerating in every field, and there is a need to be kept abreast of this rapid evolution in order to take advantage of it in recovery efforts.

Issue 12: Future-Oriented

Can vulnerabilities created by human actions (e.g., uncontrolled urban in-migration, unplanned urban growth, industrialization and development within high-risk zones, and environmental degradation) be undone? In order to move forward, the discussions noted that much of the land projected to become urban in the next few decades has yet to be developed, so there is still time to plan well and not continue the mistakes of the past. In view of this, investment decisions taken now will have huge implications for development trajectories in the future, and will prove critical in preventing cities from being locked into unsustainable development pathways, or being exposed to increasingly intense and frequent urban shocks and stresses.

Closing

At the closing, **Ms. Setsuko Saya** thanked 119 participants for their active participation and support to the Forum. Ms. Saya stated that the diversity of individuals attending the Forum reflects the essence of IRP as the "network of people". She further encouraged all participants to remain active in the discussions concerning build back better and resilience not only in the events organized by IRP but also in all other relevant platforms, online discussions, and conferences.

The Forum ended with a note that perhaps, "Build Back Better" will be succeeded by "Build Forward Better".

6-3-2. IRP/ADRC Engagement at the 2017 Global Platform for Disaster Risk Reduction

The International Recovery Platform (IRP)/ADRC had actively engaged in the fifth session of the Global Platform with the overarching theme "From Commitment to Action", by: (i) putting up a booth at the Market Place, (ii) delivering a talk at the Ignite stage; and (iii) organizing a side event in line with Priority Four of Sendai Framework. The IRP events were aimed at advocating for:

- Closer cooperation with development partners, regional intergovernmental organizations, regional organizations, and regional platforms for disaster risk reduction by promoting effective build back better outcomes
- Wider dissemination and information sharing of knowledge and experiences on build back better in recovery, rehabilitation, and reconstruction

These IRP events provide inputs to the discussions and outcomes of the GP2017, in particular advancing discussions for Priority Four of Sendai Framework.

IRP Booth at the Market Place

The booth featured knowledge products (e.g. guidance notes and tools) on build back better and resilient recovery. The materials were drawn from IRP members and partners. At the end of the global, the following were achieved:

- Distributed over 400 CDs containing case studies, tools, and guidance on build back better
- Handed out over 500 printed brochures on IRP and recovery (e.g. IRP and members' brochures, guidance notes, and reports)
- Showed promotional video on Build Back Better as well as related videos from members
- Displayed banners bearing key messages on IRP works on build back better

IRP Ignite Stage Presentation

At the Ignite Stage, the value addition of IRP Guidance Notes on Recovery was demonstrated by presenting the case of Japan, and why it can build back better. Based on analysis of the case studies on recovery from Japan, the following insights were drawn. Firstly, Japan demonstrates

"readiness to recover". This can be observed in the number of existing pre-disaster recovery plans and pre-agreements prior to disaster such as the one prepared by the Tokyo Metropolitan Government in preparation for the Nankai Trough earthquake. Secondly, Japan deliberately adjust mistakes and ensures improvements in policy, infrastructure, and societal systems during recovery phase. This is clearly evident when Government of Japan updates the building codes and relevant legislations following a disaster through the history. Finally, Japan persistently promotes a "culture of resilience" by integrating readiness for recovery in people's lifestyle. This is promoted through massive information dissemination, awareness-raising, and regular drills.

IRP Side Event

The IRP Side Event was jointly organized with Japan International Cooperation Agency (JICA). Vice Mayor of Sendai City opened the event by sharing recovery experiences of Sendai City. In this session, innovative programs on build back better – as presented by the speakers from JICA, India, and Guatemala – commonly highlighted "good governance of recovery process" as one of key factors for successful implementation. To achieve this, the following actions were specified.



Fig.6-3-2. Side Event

First, it is important to promote local ownership of the recovery process. The findings based on JICA's comparative study of Hurricane Mitch, Indian Ocean Tsunami, and Typhoon Haiyan revealed that local ownership of recovery process is fundamental to achieving build back better. Ownership of the process promotes a more decisive and accountable decisions. It implies learning from past experiences to effectively achieve the recovery vision. It was argued that the stronger the local ownership, the lesser the role of international actors. However, it was noted that local ownership does not necessarily mean denying external support and assistance. Second, it is necessary to ensure responsibility with authority. The experiences of India pointed that responsibility with authority includes strong institutional system that effectively handles political dynamics and continuity of efforts. It includes ability to delegate roles such making use of experts, consulting with stakeholders, community engagement, timely decision-making, effective coordination, and application of lessons from previous experiences. Finally, it is useful to adopt a National Disaster Recovery Framework. The Framework helps promote effective governance of the recovery process as this specifies the recovery protocols,

roles of stakeholders, and tools to use for planning. In the case of Guatemala, the country adopted a National Disaster Recovery Framework in 2013 and was effectively put into practice during the recovery from the San Marcos Earthquake of 2014. The same municipality was impacted by earthquake in 2012. The Framework facilitated a more effective recovery for the following reasons: (i) it resulted to a more coordinated role sharing among agencies of the public sector due to prior knowledge and understanding; (ii) it allowed better distribution of resources in short-term and mid-term phases; and (iii) it reduced information gaps. With Guatemala's experience and readiness to build back better, the country was able to provide technical assistance for recovery in neighboring Ecuador following the earthquake in April 2016.

"Build Back Better" in the Chair's Summary of the Global Platform

As indicated in the Chair's Summary, risk information contributes to recovery preparedness and guides efforts to "build back better". However, in order to be effective, build back better efforts require a whole of society approach, including the engagement of all stakeholders, strong partnerships to support scientific and technical research and its applications, and clear political commitment before and after disasters. In addition, the following important elements are identified in the Chair's Summary to enhance build back better efforts:

- Risk-informed preparedness and recovery plans
- Strengthened multi-stakeholder platforms at both national and local levels, in accordance with Sendai Framework, for effective collaboration and coordination among national, local governments, and communities
- Having a policy framework and legal system for reconstruction in place in advance to facilitate the recovery process
- Community capacity development
- Local ownership

While the IRP side event provided inputs to the discussions in relation to Priority Four of Sendai Framework within the GP2017, direct inputs were derived from the Special Sessions on Enhancing Disaster Preparedness for Effective Response and to 'Build Back Better' in Recovery, Rehabilitation, and Reconstruction. This Special Session was co-chaired by Japan, Ecuador and a representative from Private Sector. Comprising high-level speakers from Zambia, Jordan, USA, and the European Commission, the session came up with the following seven recommendations: i) enhancing disaster preparedness for effective response and to "Build Back Better" in recovery is important for achieving the global targets in Sendai Framework. In particular, the urgency of ensuring preparedness and recovery plans are risk-informed by 2020 is key to achieving target (e); ii) multi stakeholders' platform for policy dialogue both at national and local levels is effective for collaboration; iii) all of society engagement including women, persons with disabilities, and indigenous people should be secured; iv) importance of preparing a policy framework and legal system for reconstruction before an event (pre-disaster recovery planning embedded under policy framework); v) importance of capacity building in

communities; vi) international cooperation for disaster risk reduction was pronounced. A large-scale disaster might be beyond the capacity of one country, and in many cases, damage itself, goes beyond boundaries; vii) implementation in coherence with policies for "Sustainable Development Goals" and "Climate Change".

Corollary to this, the consultative version of Sendai Framework Words into Action on "Build Back Better" in recovery. The guidance outlines four related tasks. The first task is to develop an all-stakeholder, national-level disaster recovery framework (DRF). The second task is to enable and foster pre-disaster recovery planning (PDRP) efforts among all stakeholders. The third task is to institutionalize formal and inclusive processes and systems to effectively assess post-disaster damages and needs to formulate broad recovery strategies. The fourth task is to institute or strengthen policies, laws, and programs that promote, guide, and support build back better in both the public and private sectors, at various levels. This consultative version is for further inputs by community of practice.

6-3-3. IRP/ADRC Engagement at the Third World Reconstruction Conference (WRC3)

The International Recovery Platform (IRP)/ADRC had actively participated in the third edition of the World Reconstruction Conference (WRC3), 6-8 June 2017 in Brussels, Belgium. IRP extended support in organizing and documenting a number of sessions, including: (i) An Update from 2017 Global Platform for Disaster Risk Reduction (GP2017); (ii) Livelihood Recovery and Social Protection; (iii) Private Sector as a Key Partner in Preparedness, Response and Recovery; (iv) Preparing and Planning for Recovery - Strengthening Institutions and Capacities; and (v) Policies and Institutional Arrangements for Recovery. At the session for an update from GP2017 organized by UNISDR, the Chair of IRP Steering Committee presented on the engagement of IRP with GP2017.



Fig.6-3-3. Plenary Session

The discussions at the sessions during WRC3 demonstrated how the concept of "build back better", which is highlighted in Priority Four of the Sendai Framework, can be implemented in transformative manner that reduces risks and builds resilience, while need to be mindful that the next disaster may be of different nature from the previous one. Based on a number of experiences shared at the sessions, it was explicitly shown that build back better is not only about upgrading infrastructure with disaster resilient construction technologies but also about stronger governance

systems, improved basic services, support for diversified livelihoods, and better social protection mechanisms for the poor and vulnerable families. There are many factors that can contribute to a successful build back better effort by governments, including enhancing the:

- Ability to develop specific institutional, policy, and legal frameworks for recovery process
- Capacity to support recovery interventions efficiently and effectively so that these support to be sustainable
- Ability to coordinate multiple stakeholders that support and bring financial and technical resources to implement recovery programs

It was affirmed in the plenaries and sessions that one of the contributory factors to achieve "resilient recovery" (the overarching theme of WRC3) is the degree of preparation for recovery. "Preparedness for recovery" – as promoted in countries like India, Japan, USA, and New Zealand that have developed a well-planned and a well-resourced institutional and financial system – means putting in place the following instruments prior to disaster:

- Institutions, policies, and laws on recovery
- Financial mechanisms for recovery
- Dedicated personnel and resources for recovery

At the final day of the WRC3, this question was debated: What can we do to make recovery resilient? Obviously a generic solution is not possible because recovery is a complex and integrated process. As already known based on past experiences, various factors need to be considered to make recovery resilient such as: (i) preparedness and readiness to recover; (ii) context and capacity; (iii) systems and institutions; (iv) localization; and (v) inclusiveness or "all of us". The complexity of recovery process may call for context-specific strategies and actions for resilience. For instance the World Bank, in the context of urban resilience, suggested the following actions to make recovery resilient for cities and urban communities:

- Prepare the community, e.g. raising awareness and drills
- Build institutions, e.g. recovery agency/department
- Create a financing system, e.g. financing facility for recovery
- Invest in recovery, e.g. mitigation efforts
- Social protection, e.g. inclusion of vulnerable groups in the whole process As way forward, the participants at the WRC3 may take the cue from message of the European Union Commissioner for Humanitarian Aid and Crisis who recommended three key action points:
- Strengthen Resilience
- Understand Risk
- Work with Private Sector

6-3-4. Messages on Build Back Better at the National Conference on Promoting Disaster Risk Reduction 2017 (Bosai Kokutai)

To further share knowledge products and engage in discussions concerning "Build Back Better" in recovery, the International Recovery Platform (IRP)/ADRC set up a booth and participated in the National Conference on Promoting Disaster Risk Reduction 2017, which was held on 26-27 November in Sendai City, Japan. With the theme Preparing for Large-scale Disasters: Collaboration is the Power for DRR, the event attracted about 10,000 people including children, families, experts, community-based actors, government officials, and other stakeholders from various fields such as science, technology, culture, finance, education, leadership as well as participants from over 40 countries.

At the IRP booth, more than 150 copies of CD Rom (the compilation of knowledge products by IRP for build back better in recovery) was distributed. A number of people including students and researchers from Asian countries including Sri Lanka, India, and Philippines visited the booth to lean about IRP activities and its knowledge products.



Fig.6-3-4. Exhibition Booth

At the opening session (jointly conducted with the

World Bosai Forum opening), lessons on recovery from the Great East Japan Earthquake of 2011 was emphasized. Highlighted in the opening session were specific lessons that highlighted the application of "Build Back Better" principles including: volunteer coordination; risk-zoning of coastal areas; proactive efforts to rebuild old industries and stimulate new ones; use of business continuity plans for business resilience; and leveraging community through social capital for sustained activities. The following are some of the key messages on *Build Back Better* from the conference:

- In promoting Build Back Better, it is necessary to have various new methodologies for the reconstruction of livelihood and business, such as mutual insurance and the application of information and communication technology (ICT) to share information effectively.
- International collaboration in sharing best practices on Build Back Better for urban development is important for rebuilding society and economy after disasters.

The need to continue raising public awareness and education was also frequently mentioned in the conference, along with the task of creatively recording and communicating the intensely-felt human experience of disasters. Discussions in the conference also remarked that innovations on *Build Back Better* that addressed past shortcomings need to be recognized and shared globally.

6-3-5. Build Back Better Experiences Shared at the World Bosai Forum

During the World Bosai Forum (WBF) in Sendai City, Japan on 25-28 November 2017, the International Recovery Platform (IRP) was engaged by making a presentation on IRP at the Flash Talk and participating in plenary sessions and study tours.

Practical Build Back Better Efforts of Sendai City

This plenary session emphasized some practical Build Back Better projects to improve evacuation management, livelihood support, and community preparedness in the event of disaster. The following are some of the many recovery initiatives and projects taking place in Sendai City.

Evacuation Manuals: Prior to the earthquake, evacuation centers were supposed to be managed by respective Ward Offices only. However during the earthquake, it was found that many local organizations wanted to extend help but there was no guide or manual that specifies the various roles and functions needed in evacuation centers. Sendai City addressed this concern by developing an "operations manual" for evacuation centers. Activities including drills, planning, and collaboration with local organizations and companies are specified in the manual.

Livelihood Support Program: The disaster caused many residents to move to temporary housing and others to be relocated in safe locations. To address livelihood concerns of victims (as well as similar concerns in the future), the Sendai City Government established a Livelihood Support Program that built a system of information sharing among stakeholders including Sendai City Government, local institutions, organizations, and NPOs to facilitate a more collaborative support program. Among the specific projects/activities under the program are: job assistance center, community work salon, community good neighbor project. Some centers were also established such as Job Consultation Center, Lifetime Meaningful Work Support Center (for victims aged 65 years and above), and Livelihood Support Center.

Memorial Projects: The disaster experience in Sendai offers a lot of lessons that can be referred to as the basis for Build Back Better. It also offers deep insights for disaster preparedness. Sendai City Government wants to ensure that these lessons are never forgotten. Hence, many memorial projects were initiated. Among these are the preservation of physical ruins (e.g. the Arahama Elementary School), building of memorial facilities and museums (e.g. Memorial Community Center in Arai), documentation materials (e.g. books and memorabilia), and annual commemoration activities (e.g. HOPE FOR project).

Efforts Towards Recovery and Reconstruction

This session puts emphasis on similar recovery and reconstruction projects focusing on infrastructure and community development. The speakers in this session were the Mayor of Rikuzentakata City of Iwate Prefecture, Mayor of Ishinomaki City of Miyagi Prefecture, and Mayor of Shinchi Town of Fukushima Prefecture.

Infrastructure Projects: Most areas of these localities were devastated by the tsunami and experienced high number of causalities. In order to facilitate more effective evacuation, the following improvements in infrastructure were made in these localities:

- Widening and designating more evacuation routes
- Land and road elevation
- Rebuilding of seawalls and levees

Memorial Projects: All three local governments reported constructing memorial projects, among those common are:

- Memorial Parks
- Facilities for Praying and Mourning

In addition to these projects, there are also community development projects that are unique to each of the local governments. For instance in Rikuzentakata City, the lone pine tree that survived the tsunami "Ippon Matsu" is widely promoted through memorabilia. In Ishinomaki City, four "Community Exchange Centers" highlighting the recovery process of the city were built. In Shinchi Town, the "Recovery Story Book" project was organized, where stories of families and individual experiences were documented.

All the examples illustrate how Build Back Better can be applied in recovery and reconstruction, particularly infrastructure and community development following a disaster.

IRP Flash Talk Presentation

The presentation introduced IRP as an international mechanism for sharing experiences and lessons on Build Back Better in recovery, rehabilitation, and reconstruction. Specifically highlighted in the presentation was IRP's role as a knowledge sharing platform on recovery by showing case studies, guidance notes, tools, reports, and related resources that are easily

accessible to governments, policymakers, practitioners, academics, and the wider community of practice. The presentation also showed specific examples of Build Back Better measures that were integrated into the restoration of physical infrastructures, societal systems, and for the revitalization of livelihoods, economies, and the environment.



Fig.6-3-5. Flash Talk Presentation